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The Electragist

July
1931

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2 FLEXSTEEL ABC

3 FLEXSTEEL

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and Wires and Cables

National Electric Products Corporation
National Metal Molding Division • Pittsburgh, Pa.



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Night Lighting
of*

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Large Athletic Fields
Large Bathing Beaches
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Construction Work**



the New Benjamin Long Range Diffusing Floodlight

Supplementing its already wide range of equipment for outdoor lighting, Benjamin makes another great contribution, especially designed for the night lighting of the larger sport and recreational areas, large industrial yards and construction projects.

"Big Ben" truly means what the name implies. It is a stalwart looking outdoor unit, big in size and mighty in performance, combining a powerful long-range forward throw of light with adequate ground coverage in the areas near the unit.

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Inner reflector of aluminum oxide and the other aluminum parts used throughout the fixture are non-corrosive and weather-resisting.

*Send for new descriptive bulletin and data
for planning a lighting installation.*

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**Chicago
111 N. Canal Street**

**San Francisco
448 Bryant Street**

Electrical Contracting

VOLUME 30

With which is incorporated The Electragist

NUMBER 9

CONTENTS FOR JULY, 1931

John Wise	5
Depressions Build Business for Communi- cation Specialists	6
The Trend in Hospital Signalling	8
How to Select the Right Transformer Fuse and Wire Size by E. Geo. Goddard	10
Modernization of Apartment House Com- municating Systems	12
Opportunities for the Communication Specialist in Industrial Plants	14
Sell Style in Communicating Equipment	16
Motor Sales Policies	19
Editorials	20
Code Chats	22
A.E.I. Activities	26
In the Editor's Mail	30
Contracting News	32
Suggested Resale Prices	33
Practical Methods	86
Manufacturers' News	96
Index to Advertisers	102

Resale Price News

Price changes were smaller in number this month than at any time during the past year, but what there were, were mixed—some reductions and some increases. It would seem that the wiring supply market had reached the low point and that prices may be expected to be on an upward trend.

Price increases are noted in solid gang boxes and cord and motor connections. Also an increase is apparent in flush tumbler, flush push and surface snap switches, reflecting the change in prices on schedule material.

Outlet boxes and covers and concrete boxes have been reduced approximately 10 percent.

Reductions are also noted in knobs, tubes and cleats as well as attachment plugs. Minor price reductions have also been made on wire.

Additions of new numbers have been made on national molding, and omissions of certain numbers of cord and motor connectors as per new price-lists issued by manufacturers.

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With strap on ceiling, wires connected, temporary lighting is available. Note threaded cup into which porcelain socket fits.



When ceiling is painted, take canopy from box and slip it up over strap. Note turned lower edge of canopy.



Slide holder up on canopy neck, which has slight bevel, thereby binding holder in raised position.



Double-duty supporting toggle screws onto threaded cup attached to strap. Upper turned edge of toggle engages lower turned edge of canopy and holds it firmly against ceiling.



After lamping, slip globe over wide wings of supporting toggle and slide holder down neck of canopy. The globe is thus locked safely in position.



"IT LIFTED ME OUT OF THE DEPRESSION"

The new Wakefield Screwless Ceiling Unit—though only on the market a month—has already brought prosperity to a number of "Red Spot" contractors.

The Reason is plain when you study the pictures at the left. This construction offers your customer such year-after-year savings in maintenance expense and in painters' time when he redecorates, that the units literally "pay for themselves". To you they offer such savings in time installing that you have a substantial extra profit.

Order a sample and submit it on the next job you bid on. Order it today.

THE F. W. WAKEFIELD BRASS COMPANY
VERMILION, OHIO

for thirty years makers of "RED SPOT" lighting specialties

The Come-Back

A STUDY of the curve of business during the past two years shows what the economists call a "triple low." In other words, after the break in 1929 there was a recovery in the spring of 1930, but it did not last. After that break there was a recovery last fall and again a break. Now, we are staging another "come-back." Will it last?

The signs are more hopeful today than ever before. Recovery in a serious business depression is predicated upon three things.

First, there must be a thorough house-cleaning of all economic waste. Then, there must come an energetic sales promotion activity. Thirdly, there must be a market bell-wether—either a marked pickup in consumption markets, such as clothing and things that we consume; or a decidedly under-built condition in a major field such as the railroads or buildings.

• • •

ALL basic elements for a recovery are present. If ever the business of the nation had cleaned out unnecessary activities, we have done so now. During the past two or three months there has come a marked increase in sales promotion activity. Finally, the consumption industries are rapidly approaching 1929 levels.

The question ELECTRICAL CONTRACTING wishes to propound is whether the wiring industry is going to be content to follow business or is it going to do its part to hasten business recovery?

The industry cannot promote the erection of any new structures, but it can make sure that any that are put up have adequate lighting and wiring.

The industry can promote modernization of wiring in all classes of buildings.

The industry can do a lot of sales promotion which will bring in additional business.

Some communities are doing such work either in connection with some general body, such as the Chamber of Commerce, or through local co-operative efforts. More should be active.

Spectacular campaigns are not necessary but a steady plugging will bring inquiries which will result in business. No big appropriations are necessary, only a lot of hard, earnest work.

• • •

IN one city between 30 and 40 per cent of the organized wiremen are not employed. Why not put them to work selling with the understanding that whatever business they sell they can work on?

When the jobbers' salesmen are in town, instead of hanging around a contractor's place waiting for an order, why not have them go out and drum up some wiring business for the contractor?

In other words, why put it all up to the contractor to get the business in these times? ELECTRICAL CONTRACTING suggests that everybody get busy and sell—and soon everybody will be busy installing more wiring.

Meet Jack Mackey



Guardian of Quality in Anaconda ABC



Keen-eyed, hard-boiled Jack is all that the word "inspector" implies.

Is the armor too loose or too tight? Is the cable too flexible or too stiff? Ask Jack! He will tell you it is *just right*. If it were otherwise and he had passed it, Jack would be out of a job—but he has been *on the job* a long time.

Jack is one of many guardians of Anaconda quality. Of course it pays *you* for us to employ men like Jack Mackey . . . and it pays *us* too.

ANACONDA WIRING PRODUCTS

Rubber Covered Wire	Duraduct Loom
ABC Armored Cable	Durax Sheathed Cable
Flexible Steel Conduit	Flexible Cords

ANACONDA WIRE & CABLE COMPANY

GENERAL OFFICES: 25 BROADWAY, NEW YORK

CHICAGO OFFICE: 20 NORTH WACKER DRIVE

Sales Offices in Principal Cities

Electrical Contracting

With which is incorporated The Electragist

JULY, 1931

He Pyramided His **PROFITS**

By JOHN WISE
The Successful Contractor



I'VE never seen 'em except in a movie, but I get a thrill out of those Pyramids in Egypt. Imagine anything still drawing crowds after several thousand years! Also it just occurred to me what swell jobs they were for the contractors who built 'em, especially the first one. The boy who put that up was one of the world's greatest salesmen, past or present and I'll prove it.

You see, Billeol, the Pharaoh who ordered that first Pyramid, had no intention of building such a thing. No, sir! when he handed the successful bidder the original contract, it was for a measly old mausoleum, costing maybe a paltry million or two. But Harcademis, who got the work, was, as I have insinuated, one smart egg, and no sooner was the ink dry on the signature than he drew the Pharaoh to one side and started to work on him.

"Now, listen, Bill," says he (Bill was short

for Billeol), "Be your financial rating and don't have the neighbors handing you the razz after this here overgrown burial vault is finished. You

don't want no mausoleum, Bill, you want something they can see for miles—something that will be here 50,000 years after you're gone."

Then Harc pulled out a pencil and drew a rough idea of the first pyramid. Did it go over? Say, old Billeol was in such a rush to get started he sent out armies and conquered three more nations, so Harc wouldn't run short of help.

On top of making several millions, Harc just hung around Billeol till they were both old men, and the extras he sold that crowned head would make Ford's fortune look like a curbstoner's profit.

Now here's my argument. If a bird with no schooling and a name like a skin disease could boost a job from a mausoleum to a Pyramid 3000 years ago, I should stand there, hat in hand, while an owner orders single-pole switches and no light on the porch. Not me, Big Boy! I'm going after every prospect and sell him a job so complete that when he sneaks the last towel off the wall in the bathroom, a bell rings in the linen-room. I'll give him something to brag about to his friends, then they'll want everything he's got and four more.

▲
In times when business conditions call for improved efficiency, the business executive is particularly receptive to plans whereby telephone and signal systems will help him cut costs.
▼



Depressions Build *Business for* Communication Specialists

Specialization Case Study No. 4

DESPITE the business depression which has made many contractors reduce their operations considerably, E. A. Phillips of The Telephone Shop, Chicago, Ill., reports 1930 as being his biggest year in the business, and his business is not new, being started in 1903.

Economy programs are big opportunities for the communication specialist. For instance, Mr. Phillips recently found one large organization looking for methods of cutting operating costs. He sold them on the idea of speeding up their activities by having closer contact between employees with a minimum of movement and space occupied. The result was the installa-

tion of three complete intercommunicating systems, two in the office and one in the warehouse.

Owners of apartment buildings have found it necessary to bring their communicating systems up-to-date. Many old systems are in existence in which the equipment is obsolete and there are numerous opportunities in replacing old speaking tubes and mail-boxes with modern telephones and equipment.

Business organizations and industrials of every kind find need of a new communicating equipment or of changing old equipment when in the process of revising systems, to fit new conditions.

Communication systems, on the whole, are more technical than the lighting jobs and specialization in this work requires considerable study. However, once the specialization is mastered it becomes a paying business and new services can be sold in preference to price.

Manufacturers prefer relations with contractors who specialize, for the reputation of the manufacturers' equipment depends largely on the service the installed system gives. Most telephone systems require some adjustment after being installed and for this the manufacturers must depend on contractors who know their business. For instance, a large apartment telephone system was installed in a distant city by a contractor



Knowledge of special tools saves the consumer considerable expense and builds a reputation for the specialist. The illustration shows the use of the high frequency buzzer set in locating a ground.

A small hotel was sold a buzzer call system by the novel idea of placing a low-wound receiver in the common wire thus making certain the signal was given. The installation was enlarged by the use of telephone boxes which have locking buttons thus giving visual evidence of the signal being made.

and developed trouble. The contractor could not fix it and the manufacturer's own installer was unsuccessful. Finally, to keep the equipment from being thrown out, The Telephone Shop was called on by the manufacturer. Through a conversation on the way to the job, Mr. Phillips discovered that they had bridged the extension bell across the talking wires and had the answer to the trouble before ever reaching the job. He was only on the job about 45 minutes.

The knowledge of special equipment through specialization also gives the specialists a service to sell. A heavy ground developed in an old installation not protected in conduit. It was impossible to get at the wiring without tearing out the woodwork. By using telephone cable testing equipment placing a high frequency buzz on the line, and listening with a receiver and coil, the trouble was easily located saving the customer many hundreds of dollars.

Knowing what to do in these instances

comes only through experience and these experiences build a sound reputation, which not only manufacturers, but other electrical contractors not specializing in communication equipment, soon learn to rely on.

The average job of the communication specialist is small compared to the other types of electrical work. A \$5,000 job is a large one and the average runs between \$300.00 and \$500.00. This necessitates the handling of a large number of jobs.

Service cars and special equipment are usually unnecessary as telephone and signal equipment is light. A man can easily carry a complete 4-station telephone system with all the necessary tools. This permits a moderate investment to be outfitted for specialization.

Maintenance is the backbone of the business. It removes a large amount of fluctuation and actually increases when business is poor. To operate a complete maintenance service, contact with all manufacturers and familiarity with their equipment is essential. A fair stock of parts is also necessary. Very few telephones are made that The Telephone Shop does not have parts for. They even have manufacturers come for parts of their own equipment not regularly carried in stock.

Men employed in this work are also specialists and their employment should be as constant as possible. For this reason all terminal and battery boxes are made in the shop in spare time as well as a considerable amount of special equipment, such as elevator telephones, desk annunciators for special purposes, etc.

No large advertising campaign is conducted. A mailing list is compiled and kept up-to-date which includes all telephone installations regardless of who makes the installation as these are prospects for maintenance. Aside from selected mailings, the entire list is circularized twice a year.

Men are kept busy in spare time building special equipment. Here a standard annunciator is being remounted into a special low desk model.



The TREND



- 1 The development of loud speaking nurse's call systems by which the patient can make known his requirements, thus minimizing corridor traffic.
- 2 The centralization of nurses' call, doctors' call, doctors' in-and-out, paging and intercommunicating systems.
- 3 Nurses' call systems by which the patient calling lights lamps over the door of the patient's room, a pilot light in diet kitchen, general lights at corridor intersections and other desired locations, and the room number in the nurses' annunciator.
- 4 The development of extremely easily operated pull cord units for nurses' call systems also being conveniently adaptable and adjustable to all requirements.
- 5 Combination light and buzzer nurses' call plate with selective control of buzzer for night service.
- 6 Emergency call switches at each station by which the nurse can summon assistance without leaving the patient.
- 7 Elapsed time recorders making graphic records showing the time each call is registered and the elapsed time before the call is answered and cancelled, thus giving an accurate check of the service and efficiency of the nursing staff and furnishing unbiased evidence in the case of patients complaining that calls are not answered promptly.
- 8 Glass-paneled flush type doctors' paging annunciators operating by illuminated numbers.
- 9 Selective doctors' paging transmitting station operating through a relay flasher control permitting the call of several doctors at the same time.
- 10 Illuminated name annunciators for doctors' in-and-out systems, provided with "call operator" signals that doctors may know they are wanted as soon as they come in.

Hospital Signalling

Developments in hospital signalling equipment and systems offer the contractor many opportunities to sell improved and enlarged hospital installations.

reset being contained in the button itself. Another type utilizes the push button in the patient's hand for making the call but has the reset located on the wall. The third type is a pull cord unit in which both the call switch and reset are contained in a wall outlet, the call being operated by an adjustable cord attached to the head of the patient's bed. A

THE trend of hospital signalling has been changing rapidly and recent developments give promise of inestimable opportunities to sell and install new systems. One of the outstanding developments is the improvement and adaptation of loud speaking systems.

A number of these systems are now available in which the patient in calling the nurse presses a button and a lamp is lit in the nurse's station, as usual, but instead of the nurse coming to see what is wanted, she switches in a telephone transmitter and receiver and talks to the patient through a subdued toned loud speaking bedside unit. The patient's conversation is picked up by a sensitive microphone in this same unit. Thus a considerable amount of corridor traffic is eliminated.

Going a step further, this speaking nurse's call system has been combined into a centralized unit together with a doctor's call, doctor's in-and-out and intercommunicating systems. With this arrangement doctors can be located and conversed with at any location in the building and conversation can be had with any department, nurses' station, or nurses' home. Innumerable variations can be had including radio and phonograph programs for the patients either through the loud speakers or earphones which may be plugged in.

In the regular nurses' call systems layouts are now arranged so that the patient's call lights a lamp over the door of the patient's room, or over the bed in a ward, general lights in corridor intersections, pilot-light in the diet kitchen and the room number in nurse's annunciator. Selective light and buzzer combinations are available for any location desired.

Three types of call switches are available. One is a push-button switch held in the patient's hand, the

recent development in this latter type permits an extremely easy operating pull of only about 8 ounces.

Elapsed time recorders are being used considerably to check the time when each call is registered and the elapsed time before the call is answered and cancelled. This gives an accurate check of the service and efficiency of the nursing staff and is extremely useful in settling complaints of patients claiming that calls are not answered promptly. In case a large recording system is considered too expensive, a smaller one may be issued in connection with a switchboard in which any selected group of rooms may be placed on the recording system.

Nurses' call systems may also be equipped with energy call switches which light different colored lights by which the nurse can summon help without leaving the room.

Doctors' in-and-out systems utilize annunciators located near the doctors' cloakroom containing doctors' names on glass panels which may be illuminated by individual switches when the doctors come in and turned out when the doctors leave. A corresponding board is located at the telephone operator's desk reporting the doctor's presence. These annunciators may be equipped with call operator signals, so that each doctor may know immediately upon arrival if he is wanted.

Glass-paneled doctors' paging annunciators are used extensively in which the doctor's number is illuminated in large letters. By combining these annunciators with a selective transmitting station and a relay flasher control, several doctors may be called at one time and any number may be erased without interfering with the other numbers being flashed in rotation.

How to Select the Right Transformer Fuse and Wire Size

Tables giving transformer capacities, and wire and fuse sizes to secure proper performance of standard low voltage systems without excessive voltage drop

TRANSFORMERS form an important part in the uninterrupted operation of signal telephone call, and remote control systems which are very commonly used in modern offices, factories, schools, hotels, etc. They supply low-voltage to the electrical apparatus, which makes them decidedly cheaper to build, remove the possibility of shock hazard and enable the wiring to be installed in a great many instances at a much lower cost. They provide a constant uniform voltage and are considered the best source of power for systems of this character. Some of the uses of transformers for this purpose may be cited as follows:—Annunciator systems, automatic calling systems, alarms, doorbell systems, elevator systems, temperature control systems, door openers, buzzers, telephone systems, remote switching systems, sprinkler systems, emergency lighting systems, low-voltage lighting systems and numerous places where low voltage is desired for proper operation of electrical equipment.

The application of a transformer to systems described above should be given due consideration to insure proper operation. The capacity and voltages required should be capable of operating the entire equipment and the wiring should be such that excessive line drops are not encountered. The tables covering capacity of various size bells, transformers and wires should be followed closely.

In changing over a battery operated system it is important that the various bells, buzzers, signals,

horns, etc., all be capable of operating on alternating current as transformers will not in all instances operate direct current equipment. In purchasing transformers, the voltage and frequency of the line to which the transformer is to be connected should be ascertained so that the transformer is suitable for proper operation.

Transformer Characteristics

The construction of the transformer should be such

By
E. GEO. GODDARD

Engineer, Transformer Division,
Jefferson Electric Co., Chicago

STANDARD TRANSFORMER SIZES

Capacities	Secondary Voltages	Weight of 50-133 Cycle Types
5 watts	10	1 lb.
5 watts	6, 12, 18	1½ lb.
50 watts	4, 8, 12, 16, 20, 24	6 lb.
100 watts	4, 8, 12, 16, 20, 24	9 lb.
150 watts	6, 12, 18, 24, 30, 36	10 lb.
250 watts	4, 8, 12, 16, 20, 24	15 lb.
500 watts	4, 8, 12, 16, 20, 24	23 lb.

WIRE SIZES

Capacity	Number and Sizes of Bell							
	5-inch or smaller				Over 5-inch			
	Wire Size				Wire Size			
	No. 18	No. 16	No. 14	No. 12	No. 18	No. 16	No. 14	No. 12
50 watt	8	9	—	—	5	6	—	—
100 watt	—	24	26	—	—	17	19	—
150 watt	—	24	26	—	—	17	19	—
250 watt	—	40	45	—	—	32	34	—
500 watt	—	60	60	65	—	46	50	54

cuit should be divided so that units which are distant from the transformer will have compensated voltages for line drop. This can be accomplished by using the higher voltage tap for the remote circuit.

Fuses should be installed in the primary circuit of all transformers of this character to be in accordance with the provisions of The National Electrical Code, as shown in the fuse table at the foot of this page.

that it will operate with practically no power consumption when the equipment is not in use. The core and windings of each transformer should be hermetically sealed in a heavy metal case for protection against dampness. They should also be built in accordance with the National Board of Underwriters' specifications and provided with suitable flexible leads on both primary and secondary windings. This type of transformer is of the double-wound construction, insulating the primary winding from the secondary so that it is not possible to obtain voltages in excess of those developed in the secondary winding. The customary ground connection used in lighting systems or power lines is not in effect in the secondary circuit. To comply with many of the local inspection authorities, transformers can be provided with means for complete enclosure of the primary wires; this is usually accomplished by mounting the transformer on an outlet box plate, or on larger transformers providing a conduit fitting for their enclosure.

Reduced Voltage Taps

This style of transformer is capable of delivering full power at maximum secondary voltage for intermittent service. Reduced voltage taps are rated to deliver power in proportion of the lower voltage to the maximum secondary voltage. For example: Using the 16-volt tap on a 24-volt transformer the rating of this tap would be 16/24 or 66⅔ per cent of the transformer rating. The standard capacities and secondary voltages of transformers recognized for this service are as shown in the standard transformer table on the opposite page.

In general, vibrating bells and buzzers require low power for operation, while single stroke bells, gongs, horns and sirens, require comparatively high power. The number and size of average types of vibrating bells which can be operated simultaneously from the different types of transformers are outlined in the table at the top of this page in which is also included recommended wire sizes.

When a large number of bells is to be rung at one time the bell cir-

cuit should be divided so that units which are distant from the transformer will have compensated voltages for line drop. This can be accomplished by using the higher voltage tap for the remote circuit.

National Electrical Code allowable carrying capacities of wires,

in the different sizes most commonly used for low voltage operation are:

Wire Size	Amperes
18	3
16	6
14	15
12	20

To keep resistance drops low it is recommended that wire sizes consistent with the N.E.C. requirements be employed and that where extra long runs are made, heavier wire be used.

Transformer Capacities

The transformer capacities as outlined in the above tables are those most commonly used to take care of average signalling systems, and where larger capacities are necessary it is possible to use two transformers in multiple or to obtain one designed to supply full capacity by having it built to the proper capacity. This also applies where it is necessary to have higher voltages than those outlined as standard, which can be done by ordering it specially built by the transformer manufacturer. Transformers of special nature are provided to meet any conditions of service. At present they are manufactured in any sizes from 5 to 5000 watts in a great variety of voltages and with special case and terminal arrangements as required by manufacturers and contractors to meet their particular conditions.

FUSE SIZES

110-volt Types		220-volt Type	
50 watts	3 ampere fuse	50 watts	3 ampere fuse
100 watts	3 ampere fuse	100 watts	3 ampere fuse
150 watts	3 ampere fuse	150 watts	3 ampere fuse
250 watts	5 ampere fuse	250 watts	3 ampere fuse
500 watts	10 ampere fuse	500 watts	5 ampere fuse

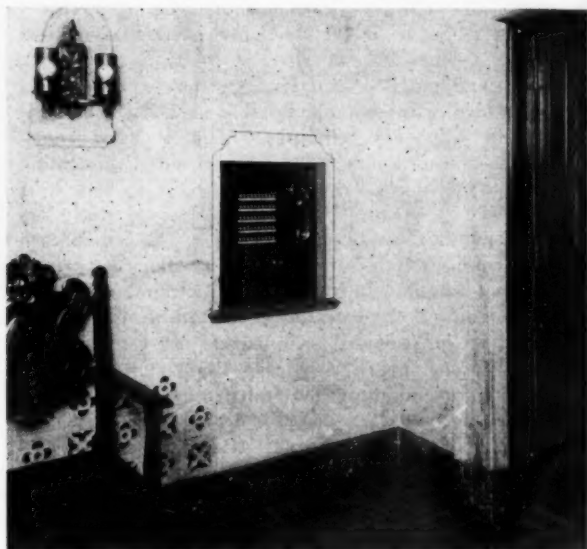
MODERNIZATION



(Photo courtesy of S. H. Couch Co.,
Norfolk Downs, Mass.)

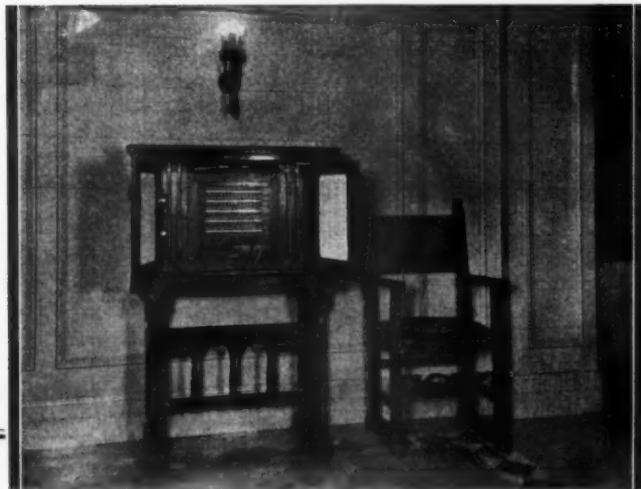
This new flush type suite phone makes an ideal instrument for the modern apartment where a telephone of artistic merit is desired. It may be used on any standard system on which instruments of no-button to 3-button capacities are called for. A similar appearing speaking type phone is shown elsewhere in this issue.

Apartment houses present another opportunity for the electrical contractor to sell modernization of communicating equipment.



(Photo courtesy of Edwards & Co., New York, N. Y.)

In the small distinctive lobby a neat way to solve the switchboard problem is to mount it flush in the side wall. In this installation a marble molding surrounds the opening which follows the design of the doors, fixtures, etc.

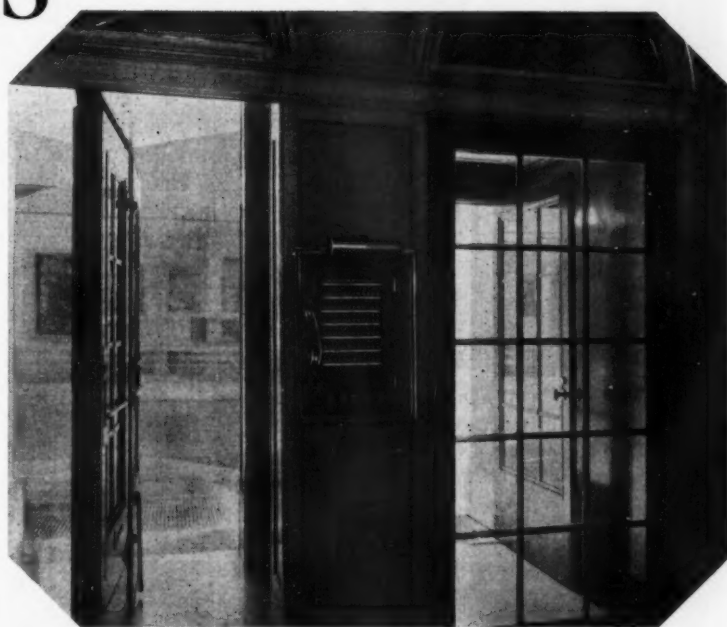


(Photo courtesy of Edwards & Co., New York, N. Y.)

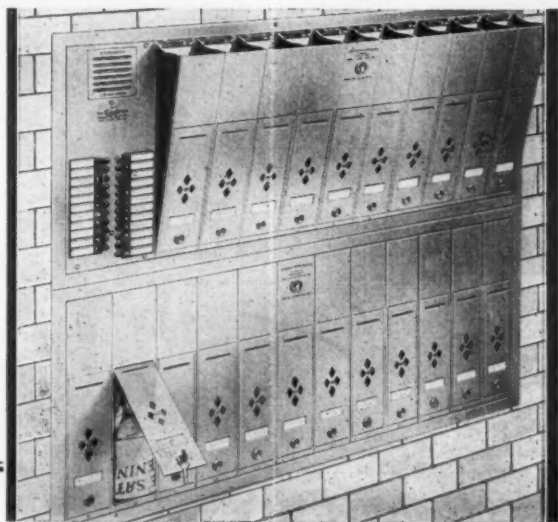
This lamp signal switchboard was finished to fit an existing piece of furniture which was formerly used to house an old button type telephone. By adopting the new system to a cabinet of this type considerable remodeling work is saved.

Apartment House Communicating Systems

Frequently narrow wall space requires the use of specially designed narrow switchboards. This location between the doors has an advantage in that the doorman can act as switchboard attendant without effecting a delinquency in his service at the curb.



(Photo courtesy of Edwards & Co., New York, N. Y.)



The vestibule telephone and mail box combination can be frequently sold to replace the old speaking tube outfits. The cordless or loud-speaking type of phone illustrated has a particular appeal in that there are no cords or movable parts to wear or break.

(Photo courtesy of S. H. Conch Co., Norfolk Downs, Mass.)

Electrical Contracting, July, 1931



(Photo courtesy of Benjamin Electric & Mfg. Co., Des Plaines, Ill.)

Sirens have many uses in industrial plants. They are invariably used as a fire alarm and frequently for other signals.

Opportunities for the Specialist in

THERE are many opportunities for the communication specialist to sell signalling and telephone equipment in industrials to improve operation of machinery, give closer contact between employees, record production and furnish protection.

Proven applications of indicating devices will be found on rheostats, turbine governors, watertanks, lift bridges, turntables, gates, valves, selectors, conveyors, gas tanks, hoists, controllers, voltage regulators, frequency charges, furnace charge regulation heat registering and overload indication.

Signalling systems are frequently used for start and stop to switchboards, switchboards to generator rooms, steel mill furnaces to blower rooms, grain elevator distribution systems and for crane and derrick control.

Interior telephone systems are used for executive



A recent development finding a rapidly increasing use in industrials is the oral calling system utilizing sound distribution equipment to locate persons or distributing messages or programs. The operator speaks into the microphone calling any person desired. This system may also be arranged to permit executives to call or speak to anyone in the plant.

Speaking units of the oral calling system are located at desired points throughout the plant and the volume of tone regulated according to requirements. This system saves considerable telephone expense, especially where several plants call each other at station-to-station rates.



(Photo courtesy of Operadio Mfg. Co., St. Charles, Ill.)
Electrical Contracting, July, 1931

for the Communication Industrial Plants

offices, superintendents' offices, foremen's desks, cranes, production control departments, shipping rooms, testing laboratories, emergency hospitals, purchasing departments, turbine and engine rooms, and at many parts throughout the plant and yard.

Automatic burglar alarm systems are used in stock-rooms, vaults, die storerooms, chemical laboratories and research departments.

Clock systems are used in offices, plant superintendents' offices, and time-keepers' offices. Telegraphic writing systems can be installed for the offices, production control departments and shipping departments.

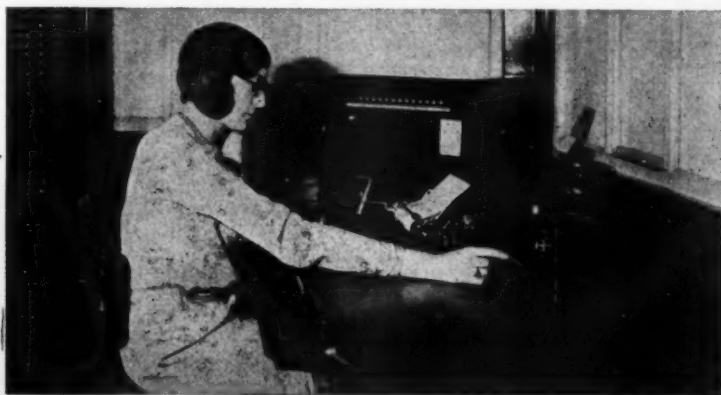
Other systems which are being used to serve industrial requirements are sound distribution or paging systems, fire alarm, watchman's recording annunciator and code call systems.

The code calling system is indispensable in many industrials. This "nerve center" enables the operator to call up to 30 different people.

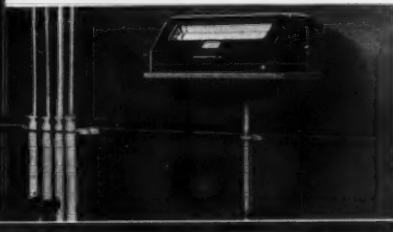
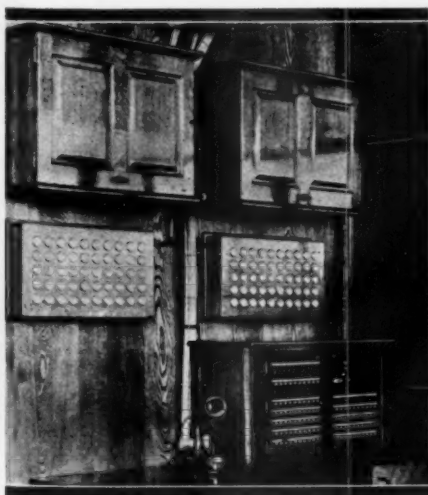


(Photo courtesy of Automatic Electric, Inc., Chicago)

The anti-noise telephone has many applications in industrials such as this turbine room installation. This hand-set wall type is ideal where space is at a premium.



(Photo courtesy of Schwarz Electric Co., Adrian, Mich.)



Nearly every industrial can use a fire-alarm system and watchman's recording service. In this installation an industrial fire-alarm system and a multiple time-recorder are combined.

(Photo courtesy of Automatic Electric, Inc., Chicago)

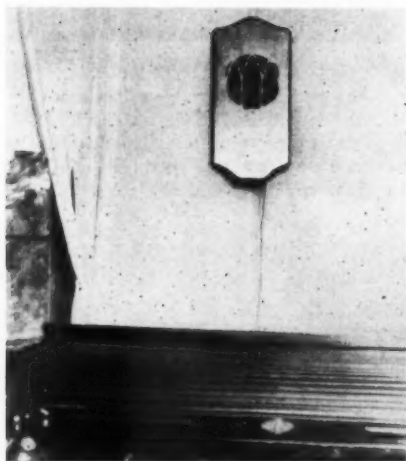
Electrical Contracting, July, 1931



(Photo courtesy of Kellogg Switchboard & Supply Co.,
Chicago)

This cradle type desk telephone blends with the richest of furniture. Its stream-line design will be found to harmonize with all present day surroundings.

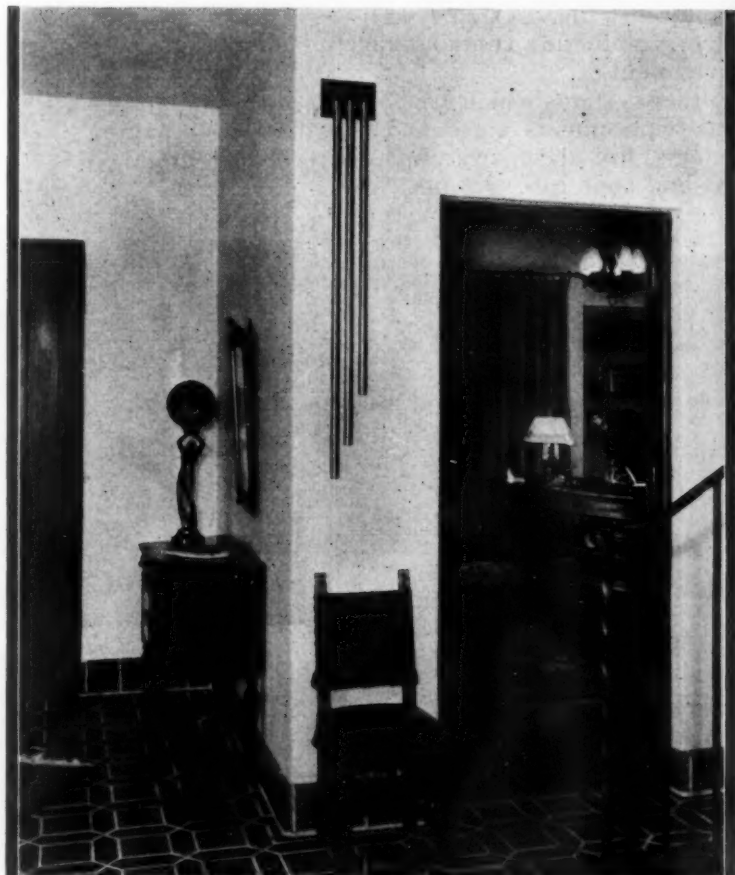
SELL in Communication



(Photo courtesy of Operadio Mfg. Co.,
St. Charles, Ill.)

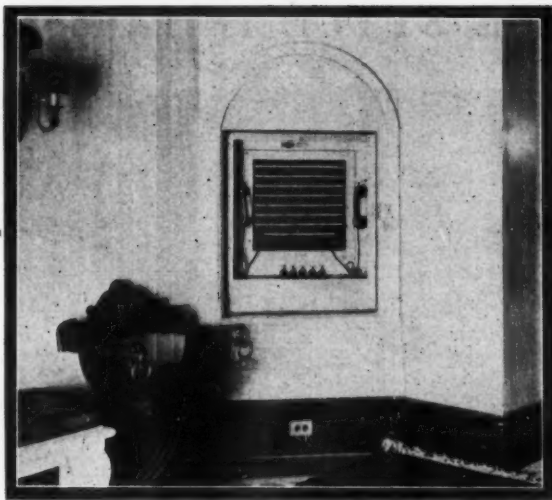
The speaking unit of this oral call system fits artistically in the corner of even the most elaborate office.

Door chimes are style plus. Not only is their tone most pleasing, but their appearance blends delightfully with exacting architecture. Electric chimes may be wired for front and back door calls, dinner calls and may be had for any number of tone arrangements.



(Photo courtesy of Electric Signal Co.,
Los Angeles, Calif.)

This recessed telephone switchboard located in a corner panel of an apartment lobby is beautifully fitted with a marble trim.



(Photo courtesy of Edwards & Co., New York, N. Y.)

STYLE

ating Equipment

Appearance as well as utility can be obtained in almost every type of signal and telephone equipment. This additional feature of style gives the contractor a new opportunity to sell quality equipment.



(Photo courtesy of S. H. Couch Co., Norfolk Downs, Mass.)

This new speaking type apartment house suite phone is not only beautifully constructed but is a new departure in telephone design, having no receiver to get broken or left off the hook. It is of the flush type and is available in a wide variety of finishes including bronze, green, black, sprayed brass, bakelite and french grey.

Telephone switchboards need not interrupt the harmony of a distinctive interior. This cabinet housing a 99-lamp signal board harmonizes beautifully with this richly paneled lobby.



(Photo courtesy of Edwards & Co., New York, N. Y.)

SELL STYLE IN COMMUNICATING EQUIPMENT



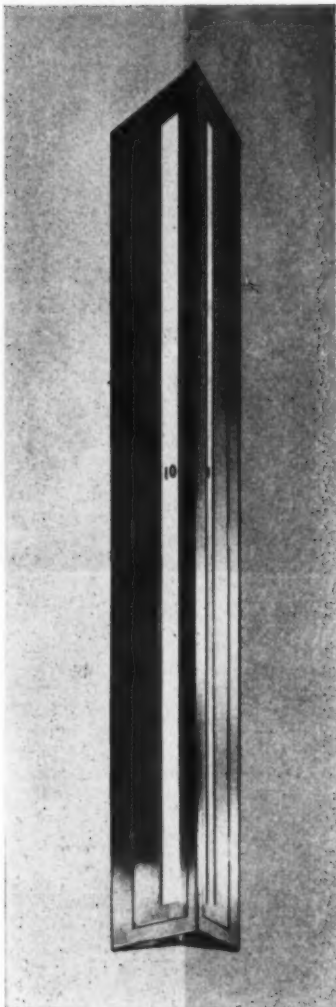
(Photo courtesy of Edwards & Co., New York, N. Y.)

The doctors' in-and-out annunciator register system in the hospital is mounted flush with the wall and its appearance harmonizes with the surroundings.



(Photo courtesy of Edwards & Co., New York, N. Y.)

The neatness of this small desk annunciator adds considerably to the appearance of this office. This small size is accomplished by removing the relays and placing them in a small metal case mounted under the desk.



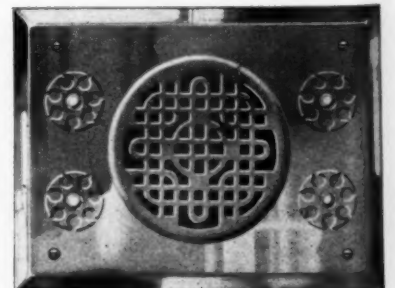
This double faced corner mounting annunciator is neat in appearance and is readable from almost any angle in the board room of this broker's office. It is used in connection with incoming telephone calls.



(Photo courtesy of Automatic Electric, Inc., Chicago)

This hand-set type telephone is neat appearing and unique in that it contains the bell in the base of the telephone set. It has many uses where there is little space available to mount the separate type of bell box.

This decorative grill with steel cabinet contains a bell-buzzer on 2-bell combination and sets flush with the plaster. It is ideal for better class houses.

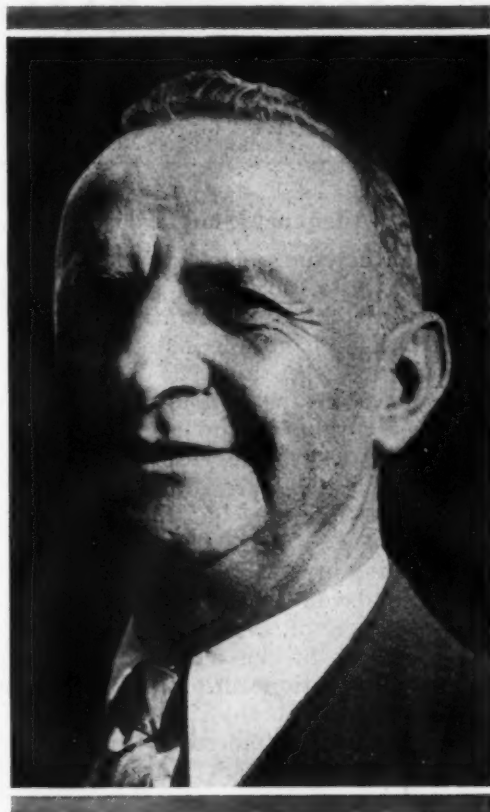


(Photo courtesy of Schwabe Electric Co., Adrian, Mich.)

(Photo courtesy of Edwards & Co., New York, N. Y.)

Motor Sales Policies

A REPORT by Louis Kalischer, chairman of the Motor Section, A.E.I., covering the very satisfactory development of policy relationships between motor manufacturers and motor specialists, as the result of a careful study of motor distribution problems during the past two years, was sent last month to all of the Electragist Chapters. After presenting a resume of the section's activities the report goes into motor distribution policies as follows:



Louis Kalischer, Chairman
Motor Section, A. E. I.

Many of the policies now being followed by various electrical manufacturers are undoubtedly more favorable to us. This report deals only with the policy of the manufacturer with which my Company has served as motor dealer for the past 24 years.

This manufacturer has explained their policy to me as one of their motor dealers, and their policy is acceptable to me for the reasons stated below. I am convinced that such policy would be advantageous to motor dealers throughout the country, and as a pattern might well be used in further negotiations with other motor manufacturers as a basis for harmonious relations with their own dealers or agents, to their mutual benefit and understanding.

I. Service Shops

The necessity of the establishment of service shops by the manufacturers has been duly acknowledged as sound and necessary.

However, on the question of aggressively soliciting repair business on all makes of motors, the lower cost of their own factory-made repair parts, the allocation of a proper share of the overhead to this class of business, etc., this Company does not actively solicit repair business on material manufactured by its competitors, but occasionally is called upon to assist a customer by repairing competitive apparatus. The percentage of its service shops' operations on competitive apparatus is so small as to be negligible.

With respect to charging overhead, the use of factory-made repair parts and the prestige of the company, the company states that none of these factors are used for "setting up competition on a basis that the local motor specialist cannot meet."

Although it has been made clear that we cannot expect any agreement that the manufacturer will not compete, the detailed investigation now being made to further refine the service shops' policies and practices, will certainly clear up practically all of the questions remaining.

Electrical Contracting, July, 1931

II. Fractional Horsepower Motors

The change in discount is now in effect and is satisfactory.

III. Motor Repair Parts

Entirely satisfactory and now in effect.

IV. Class A and B Classification

The modification of these classifications has been made and measures to better the position of the Motor Specialist by leads, sales help and assistance to build up the Motor Specialists; in fact a recognition of the principle that within his field a fair opportunity is presented to obtain the business and at a profit.

V. Machinery Manufacturers

The question that advantage is taken in many cases by machinery manufacturers in the purchase of unattached motors to be sold with machines they manufacture, was carefully considered.

It is, of course, obviously impossible to expect that all unattached motors should be sold through any single channel of distribution. The only course of action which the manufacturer can take, and is taking, is to publish a plan of operation that it believes to be economically sound in the hope that motor business will clear through logical trade channels.

Every effort will be made to closely scrutinize the sale of detached motors to comply with the (Continued on page 92)

Electrical Contracting

With which is incorporated The Electragist

S. B. WILLIAMS, Editor

Adequacy Standards

IN the A.E.I. news section an announcement will be found that the Association of Electragists has undertaken to develop standards for wiring adequacy in all classes of buildings.

This news means considerably more to the industry than is apparent on the face of it. It means the development of standards which will be acceptable not only to the electrical industry but to the architects as well.

In working up its previous chapters on wiring standards the association drew on the experience of engineers employed in other branches of the industry, consulting engineers, inspection authorities, and others and it is expected that the standards of adequacy, when completed, will in like manner represent the best thinking of every interested branch of the industry.

This is the first step in an industry department on wiring adequacy such as we have been advocating for some time. As we understand it, the work of this committee will be confined to setting up standards of adequacy alone without reference to materials or sales methods.

It is equally important, however, to study how to sell adequacy and we look forward to an announcement on that point shortly.

And, while we are doing the job, we should study wiring methods, their cost and adaptability to old work. Unless the industry gives this subject its careful attention other methods with only their low cost to recommend them will make their appearance and gain favor.

If there is a market for surface extensions in old work let it be studied and a method found of doing the work that not only fits the price limitations but is safe and requires a competent person to install it.

Another Decade

THIS month marks the close of the third decade of usefulness of the Association of Electragists, International. Thirty years ago this month, July 17, 1901, a small band of contractors met in Buffalo, N. Y., and formed the National Association of Electrical Contractors. Not many of the original number are left but the same spirit of co-operation and mutual self-protection remains with those who are carrying on.

Thirty years is a long time—almost a third of a century. With a man the thirties are called the bright years of opportunity. Perhaps they will be with the A.E.I.

Certainly there is much to do. With the growing recognition that so much of the progress of the electrical industry, as a whole, is affected by the character of the wiring, the work of the A.E.I. for the next few years can be of major importance.

Shall the contractor remain in possession of the house wiring and rewiring business or are the power companies going to assume the responsibility for that? It will need a strong association to battle through.

Is the National Electrical Code to be a true safety code or is it to fall into the hands of the power companies, there to have the standards brought down to meet the demand for low cost wiring?

These are but an indication of the opportunity of the thirties for the A.E.I. Are these the jobs that you, as contractors, want done? Are you willing to spend 4 cents a day to help put it over? Are you willing to urge your competitor to do likewise?

An Industrial Electrician

FOR a long time we have been encouraging the industrial electrical contractors to make a study of the relative merits of their services and those of the average industrial plant electrician to the end that they sell their services to industry. At the present time we are collecting all of the data available on this situation for presentation in an early issue.

One thing, however, stands out clearly and that is the inexperience of the average factory electrical maintenance man.

Recently, we visited a school for electricians where the fellows get a three months' fairly intensive training in all phases of electricity. With this, in almost all cases, as their complete background, they are re-

leased, some three thousand of them yearly, upon the industry. Two-thirds or more of them go into factories as maintenance men.

Electric motors and control are costly pieces of equipment but the production that they regulate is more costly still. Will works managers be willing to intrust such inexperienced fellows with such an important part of their works if shown that contractors can do the work better and in the long run for less money?

Jobbers have sold the industrials the idea that they could save money by having their own electrical department and buying direct from the jobber.

If the purchases of the average industrial could be properly costed, it would be found that it was really spending more. What is the cost to put through an order, check it and stock it, and carry the material on inventory? The contractor can save for the average industrial labor hours and material costs besides insuring speedy repairs or change-over with the minimum loss of production time.

The Price of Folly

"UNFORTUNATELY the customer of the light and power company has a curious psychology with regard to electric service which prompts him to hold the company responsible, not only for the quality of its service, insofar as electric current is concerned; but also for the effective operation of the appliances which he attempts to use in his home."—J. F. Owen, president-elect, National Electric Light Association, before that body's recent convention.

The above excerpt was taken from Mr. Owen's address on "Trade Relations" and were made in justification of the merchandising policies of power companies. It was his contention that the power company could not dodge the responsibility for seeing to it that appliances gave satisfactory service. "In some communities," said Mr. Owen, "it (the power company) has been forced to go into the business by a flood of sub-standard equipment giving unsatisfactory service for which the central station has directly or indirectly been blamed."

It is somewhat surprising to us to find that sub-standard appliances have become a point at issue. If our recollection serves us correctly, some of the largest public utilities have not hesitated in the past to sell some of the cheapest curling irons and flat irons, and not so very long ago, the head of one of the largest utilities in the country attempted to justify the sale of sub-stand-

ard wiring material in his company's stores. The New York State Electrical Contractors' Association had to go on record a few days ago as protesting against the activity of one of the northern New York state properties which were insisting upon contractors' using sub-standard wiring methods in range wiring.

If sub-standard appliances have secured a hold on the market, to what extent has it been due to the merchandising practices of the power companies? Our experience generally is that stores of the better grade will merchandise the better grade materials if there is a possibility of profit. If the utilities have removed the possibility of profit, then why complain if these same stores find items that are profitable?

The N.E.L.A. has recently released a new set of power company merchandising principles which are much more to the point than any previous commitments on this subject. These points show that the power companies have recognized unfair practices.

We are not one of those who believe that public utilities must justify their right to merchandise. We do believe, however, that for their good, as well as the good of the electrical industry, the public utilities should not take advantage of their position but should merchandise on the same basis as any other dealer. Had the utilities followed this principle, they would never have been faced with unfavorable legislation.

We sympathize with the desire on the part of the public utilities to increase the consumption of energy. Not only do they benefit, but the electrical contractors as well. We deplore, however, any action on their part to increase this consumption by artificial means. If all merchandising outlets have an equal opportunity to sell electrical appliances, then the market will grow in its most logical and healthy manner and all interests will benefit, including the public.

Furthermore, the utilities must also recognize that the same thing holds true of wiring. The problem today is not the cost of wiring, but rather the problem of orderly development of the market. When the utilities attack the safety factor of wiring and attempt to set up sub-standard wiring practices, they are committing the same folly that they did when they attacked the price structure of the appliance business.

Surely the recent flood of adverse legislation should have taught them the price of folly.

Code Chats

A Monthly Discussion of Wiring Practice and Questions of Interpretation, Presented with a View Toward Encouraging a Better Understanding of the National Electrical Code - - -

Conducted by F. N. M. SQUIRES

Assistant Chief Inspector, N. Y. Board of Fire Underwriters

Read the Labels

The American public is famous for its taking things at their face value and with only casual attention. How many read all the items on their insurance policies, whether fire, life, automobile or "what have you"? How many read every sentence of the contracts they sign when buying things? If things look all right at first glance, we assume that everything is O. K.

The same holds true, all too often, with inspectors and contractors when looking for labels of approval on electrical materials. However, great care should be taken in order not to be confused over the various labels met with on electrical equipment today. By "Labels of Approval" we mean in general the labels of Underwriters' Laboratories. Other labels met with are the manufacturer's label and the Union label. We should examine all labels carefully so as to be sure just what labels are present and especially that the particular label we are looking for is there.

In some cases a combination label is used and this bears on it the name of the manufacturer and the approval of the Laboratories. Another thing to ascertain is that the proper label of approval is used for the particular piece of equipment to which it is attached. For instance, a sign label on a cutout cabinet, or a conduit label on a coil of armored cable, would be meaningless and of course should not be accepted.

There is one subject which should be given great care; this is the labelling of cutout boxes, cabinets, cabinet trims, enclosed branch circuit cutouts and enclosed switches. A listed device such as an approved cutout base or an approved switch

may be installed in a labelled box, but it is up to the district inspector to see that the installation is properly made; or, the approved cutout may be put into a labelled cabinet and again the inspector must see to the installation and ascertain that the cabinet is labelled, that the trim is labelled and that the device installed within the cabinet is listed as approved.

Just recently an inspector found a listed (approved) cutout base in a labelled cabinet but as he did not like the looks of the assembly, a check-up was made. It was found that the cabinet, the trim and the cutout were all approved separately but that they did not fit together properly

and would not have been approved as an "enclosed branch circuit cutout." The installation was therefore not "O. K'd" until devices which assembled properly, were substituted. Had this inspector not been careful, or had he been satisfied by the appearance of some labels he would have "O. K'd" a hazard. However, he is one of those inspectors who reads the labels and makes sure they are properly applied.

However, if the installation of the device within the cabinet is made by the manufacturer, the whole combination may be approved under one label such as "Enclosed Branch Circuit Cutout" or "Enclosed Switch." Labels such as these cover both the devices in the enclosure and the enclosure itself.

We must therefore carefully read all labels in order to really know what meaning the label is trying to convey to us; i. e., "Every little label has a meaning all its own."

Three Way Switch Circuit

A letter just received reads:

"Received my May issue. Reading on page 26, could not Figure 4 be wired as below and pass? The current will take the course of least resistance."

It will be noted that wires A and D are in parallel, but one being in each cable.

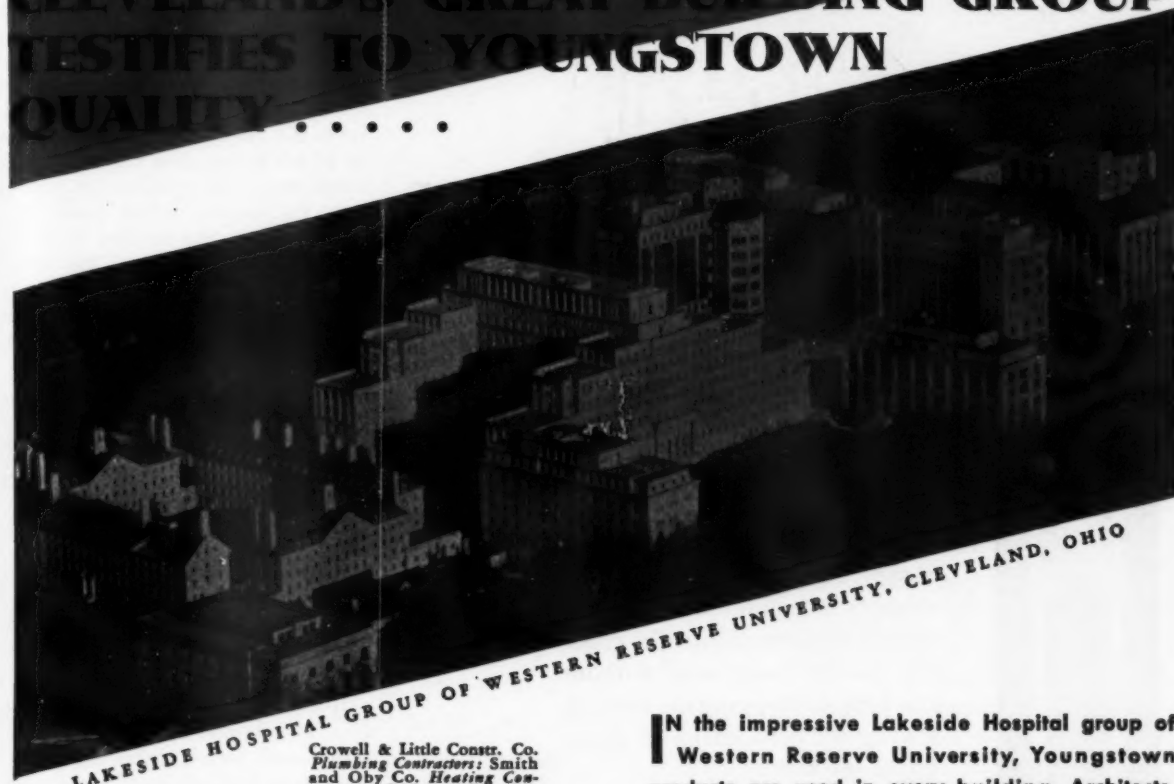
When current is flowing over B it may be also following over A thus not causing induction in the armor or it may flow over D in which case induction would result.

Or the current may flow over C and D with no resultant induction or over C and A with induction resulting.



TEACHES WIREMEN—H. J. Leavett is the instructor in the school for journeymen and apprentices at Albany, N. Y. The school board pays the instructor and provides a meeting place while the Brotherhood of Electrical Workers furnishes the material to be used in practice. Attendance is limited to men actually working at the trade and compulsory for apprentices who meet once a week. Journeymen, if they desire, enroll and take more advanced work. The instructor, a graduate engineer and former contractor, had 53 men in his class last semester.

CLEVELAND'S GREAT BUILDING GROUP TESTIFIES TO YOUNGSTOWN QUALITY



LAKESIDE HOSPITAL GROUP OF WESTERN RESERVE UNIVERSITY, CLEVELAND, OHIO

LAKESIDE HOSPITAL GROUP

Service Building:

Architects: Garfield Stanley-Brown Harris and Robinson. Engineer: John Paul Jones. General Contractors: Lundoff Bicknell Co. Plumbing Contractors: W. G. Cornell Co. Heating Contractors: W. B. Van Sickle Co. Electrical Contractors: Hatfield Electric Co. Ventilating Contractors: W. B. Van Sickle Co.

Medical School:

Architects: Coolidge, Shepley, Bulfinch and Abbott, Boston, Mass. Engineers: Heating and Ventilating: Buerkel & Co., Boston, Mass. Plumbing: James A. Cotter Co., Boston, Mass. General Contractors: Lundoff Bicknell Co. Plumbing Contractor: Smith & Oby Co. Heating Contractors: A. R. Brueggeman Co. Electrical Contractors: The Berg Clark Electric Co. Ventilating Contractors: A. R. Brueggeman Co.

Babies' Hospital:

Architects: Garfield Stanley-Brown Harris and Robinson. Engineers: Heating and Ventilating: Buerkel & Co., Boston, Mass. Plumbing: James A. Cotter Co., Boston, Mass. Electrical: Hixon Electric Co. General Contractors: John Gill & Sons. Plumbing Contractors: Smith & Oby Co. Heating Contractors: A. R. Brueggeman Co. Electrical Contractors: Hatfield Electric Co. Ventilating Contractors: A. R. Brueggeman Co.

Maternity Hospital:

Architects: Garfield Stanley-Brown Harris and Robinson. Engineers: Clark MacMullen and Riley. General Contractors: Crowell & Little Constr. Co. Plumbing Contractors: Smith & Oby Co. Heating Contractors: A. R. Brueggeman Co. Electrical Contractors: Hatfield Electric Co. Ventilating Contractors: A. R. Brueggeman Co.

Pathology Building:

Architects: Garfield Stanley-Brown Harris and Robinson. Engineers: Clark MacMullen & Riley. General Contractors:

Crowell & Little Constr. Co. Plumbing Contractors: Smith and Oby Co. Heating Contractors: Smith & Oby Co. Electrical Contractors: Hatfield Electric Co. Ventilating Contractors: Smith & Oby Co.

Lakeside Hospital:

Architects: Coolidge, Shepley, Bulfinch and Abbott, Boston, Mass. Engineers: Heating and Ventilating: Buerkel & Co., Boston, Mass. Electrical: Hixon Elec. Co. General Contractors: John Gill & Sons. Plumbing Contractors: W. G. Cornell Co. Heating Contractors: W. B. Van Sickle Co. Electrical Contractors: Martien Electric Co. Ventilating Contractors: W. B. Van Sickle Co.

Hanna Memorial Building:

Architects: Coolidge, Shepley, Bulfinch and Abbott, Boston, Mass. Engineers: Heating and Ventilating: Buerkel & Co., Boston, Mass. Plumbing: James A. Cotter Co., Boston, Mass. General Contractors: John Gill & Sons. Plumbing Contractors: W. G. Cornell Co. Heating Contractors: W. B. Van Sickle Co. Electrical Contractors: Martien Electric Co. Ventilating Contractors: W. B. Van Sickle Co.

Nurses' Dormitory:

Architects: Coolidge, Shepley, Bulfinch and Abbott, Boston, Mass. Engineers: Heating and Ventilating: Buerkel & Co., Boston, Mass. Plumbing: Jas. A. Cotter Co., Boston, Mass. Electrical: Hixon Elec. Co. General Contractors: John Gill & Sons. Plumbing Contractors: W. G. Cornell Co. Heating Contractors: W. B. Van Sickle Co. Electrical Contractors: Martien Electric Co. Ventilating Contractors: W. B. Van Sickle Co.

Allen Memorial Library:

Architects: Walker & Weeks. Engineers: Heating and Ventilating: Clark MacMullen & Riley. Plumbing: Walker & Weeks. C. H. Loughridge. General Contractors: Reaugh Constr. Co. Plumbing Contractors: Smith & Oby Co. Heating Contractors: Smith & Oby Co. Ventilating Contractors: Smith & Oby Co.

IN the impressive Lakeside Hospital group of Western Reserve University, Youngstown products are used in every building. Architects, engineers and contractors on all of these buildings have recognized the superior qualities of Youngstown pipe, Youngstown Buckeye Conduit and Youngstown steel sheets, all of which have been used in this new university group. / Electrical contractors the country over recognize the merits of Youngstown Buckeye Conduit . . . and use it consistently. / Youngstown products are handled by leading jobbers everywhere.

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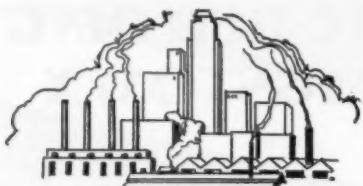
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JUST AS SMOOTH INSIDE AS A GLASS TUBE



The smooth, glass-like enameled inner surface of Fretz-Moon Conduit is clear and free from rough edges or burrs—a fast raceway that fishes easily and materially reduces installation time in wiring.

Sharp, clean, accurate, threads simplify fitting; increased ductility and absolute uniformity make any needed bend easy without cracking or chipping the enamel, scaling the galvanizing or opening at the weld.

Fretz-Moon Conduit is available in three brands. ENAMELITE—black enameled inside and out; ELECTRO-GALVITE—enameled inside and electro-galvanized outside; HOT DIPPED GALVITE—heavily galvanized both inside and out with a baked-on enamel coating over the galvanized inside surface. A brand for every set of conditions.

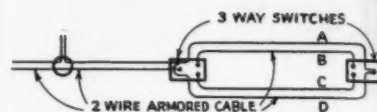
Fretz-Moon Conduit is your assurance of a good job, quickly and at low cost.

FRETZ-MOON TUBE CO., Inc.
BUTLER, PENNA.

FRETZ-MOON

RIGID CONDUIT

But if there is induction in the armor the armor will heat and to heat the armor work is performed. This means energy is used and we know that all of this increases the "resistance" of the circuit. Therefore, the current will take the path by which it may flow without having work to do—thus taking the path of least resistance—which means that when current has to flow in B because of the position of the switch it will also flow in A instead of in D, and likewise when the switches throw the current into C it will flow over D instead of A.



A quicker way of saying the above would be to say that the reluctance of the circuit would keep the current where it belonged and that no induction would result.

But with armored cable so cheap as it now is and with the manufacturers and supply houses eager to sell "shorts" of all lengths, why is it any hardship to require that three wire cable be used between three way switches and save all the arguments? And "anti-short" bushings are given away free with all cables!

Unapproved Fuse Plugs

A vigorous campaign should be waged at the present time against unapproved fuse plugs. Just now the market is being flooded with them.

As we all know fuses are our safety valves and if any part of our electrical equipment needs to be "right" it is the safety valve. The fuse in its normal operation burns out and on a severe short circuit is called upon to break considerable of a current and the fuse casing is then called upon to quench and confine a quite intense arc and sometimes quite an explosion.

If the fuse plug is carelessly made or structurally weak, serious damage may result and the best of them can be none too good. Also at the present low price of fuses we cannot afford to use any but the best. Why try to save two cents in the price of a fuse when it may result in a thousand-dollar loss?

Announcing

The STROWGER AUTO-COM



A New Dial-Type Interior Telephone System Made by the Makers of STROWGER P-A-X

HERE is a new interior telephone system for residences, offices, small factories, warehouses—for use anywhere, in fact, where the ultimate requirements are ten telephones or less—a telephone system which offers the contractor a chance to extract a good profit from this much-neglected field.

The Strowger Auto-Com represents such a vast improvement over old-fashioned "push-button" systems—in appearance and convenience as well as reliability and long life—that any attempt at comparison would only be misleading. The telephones used are the latest dial handsets, offered in black bakelite and in a wide range of colors to match the finest appointments of home or office.

Unlike the ordinary dial telephone system, the StrowgerAuto-Com has no central automatic switchboard and needs no operator. It provides not only interior telephone service, but also Code Call and Conference service. It is simple to install and operate, and the telephones require no attention. Use the coupon below for complete information, prices and terms.

How It Works

The Strowger Auto-Com consists of as many dial telephones as may be needed (up to the limit of ten), a small power unit for supplying current, and the necessary connecting cable. The latter consists of one wire for each telephone, together with one common pair of wires for the signaling circuit and a common talking return.

Selection of the proper station is made by means of the telephone dial. When using the telephone, the user removes the hand unit, turns the dial to the proper number and then presses a ringing button which is conveniently located beside the dial. Replacement of the hand unit after the conversation restores the dial to its normal position.

Current for operating the system is furnished by small storage battery with an automatic charging unit, or, in cases where commercial power supply is not available, by a battery of eight dry cells.

Engineered, Designed and Manufactured by

Automatic Electric Inc.

Factory and General Offices:

1031 West Van Buren Street, Chicago, U. S. A.

Sales and Service Offices:

Atlanta	Cincinnati	Detroit	New York
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Pittsburgh	Kansas City, Mo.	Los Angeles	Washington, D. C.

ATTACH TO YOUR LETTERHEAD AND MAIL TO

Automatic Electric Inc., 1031 W. Van Buren St., Chicago

Please send us information, prices and terms on the Strowger Auto-Com.

Name.....

Position.....

A. E. I.

NEWS and SERVICE INFORMATION

Material for this department is supplied by the headquarters staff of the Association of Electragists, International, 420 Lexington Avenue, New York, N. Y.

President, L. E. MAYER
14 North Franklin Street, Chicago, Illinois

Vice President, EARL N. PEAK
1603 West Main Street, Marshalltown, Iowa

DIVISIONAL EXECUTIVE COMMITTEEMEN

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To Formulate Adequacy Standards

Arthur L. Abbott, former technical director of the Association of Electragists, International, and now connected with the Uniform Ordinance Department of NEMA, has been appointed technical secretary of the Electragists' Standards Committee, which is engaged in developing a new section of the Electragists' Standards covering "Engineering Design of Wiring Installations." The work of this Committee has been divided into five sections and assigned to subcommittees, which will handle their respective subjects as follows:

1. House Wiring—1 to 4 family houses.
2. Apartments—Over 4 families.
3. Public and Commercial Occupancies—Small and medium size.
4. Public and Commercial Occupancies—Large.
5. Industrial Occupancies.

The first meeting of the Sub-Committee on House Wiring will be held at A.E.I. headquarters in New York City on June 29 to July 1, inclusive, preliminary agenda including the following subjects:

Formulate complete adequacy specifications for wiring in residential occupancies for 1, 2, 3 and 4 families:

1. Outlets and switch control.
2. Branch circuits for the heavier portable appliances.
3. Branch circuits for lighting and small portable appliances,

4. Branch circuits for fixed appliances (not including extensive applications of electric space heating).

5. Services.

- a. Service without provision for high-capacity fixed appliances.
- b. Service including provision for range, water heater and other high-capacity fixed appliances (not



Arthur L. Abbott

including extensive applications of electric space heating).

6. Layouts for electric space heating, including service and branch circuits. This division is intended to include more or less complete equipments for general house heating. Installations including only a few of the

more common types of space heaters, such as fire-place units and built-in bathroom heaters, are intended to be covered under items 4 and 5.

Chapters Pass 100 Mark

The first charter issued to a Chapter of the Association of Electragists, International, was in the early part of 1929. By March, 1930, 48 Chapters were chartered, and at the time of the A.E.I. Convention held at Milwaukee in August, 1930, the number of Chapters had increased to 66.


The total number of these Chapters has now grown to over 100, and these Chapters include 70 per cent of the total members of the association.

Convention in October at Hot Springs, Ark.

The Thirty-first Annual Convention of the Association of Electragists, International, will be held at the Hotel Arlington, Hot Springs, Arkansas, on October 5-7. Hot Springs enjoys reduced round-trip railroad fares from all parts of the United States, and special low rates on the American plan have been arranged at the Hotel Arlington for convention delegates.

Hot Springs, located in the picturesque Ozark Mountains, was set apart as the first National Park of the United States by an Act of Congress in 1832, following a survey made by a commission of explorers appointed by President Thomas Jefferson in 1804, who located the 46 famous hot springs which are included within the 900 acres of the National Park. Enjoying an altitude of nearly 1,000 feet and deep in the heart of pine-clad mountains, Hot Springs National Park has a wonderful climate, which is at its most perfect stage in October.

Hot Springs has numerous excellent golf courses, three of them being championship 18-hole courses, which offer not only sporting golf but a vista of scenery rarely equalled. For those who do not golf but enjoy the outdoors, there are infinite attractions both for hiking and motoring. Starting at the very door of the hotel, one can hike through the woods along well defined mountain paths and find beauty in every direction. Within six miles is beautiful Lake Katherine, created by the building of Rammel



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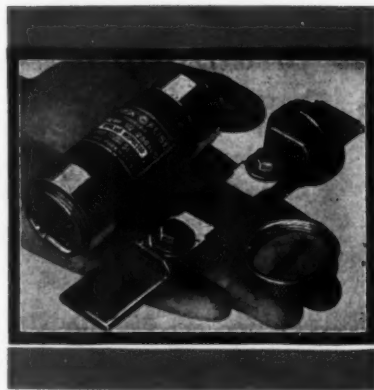
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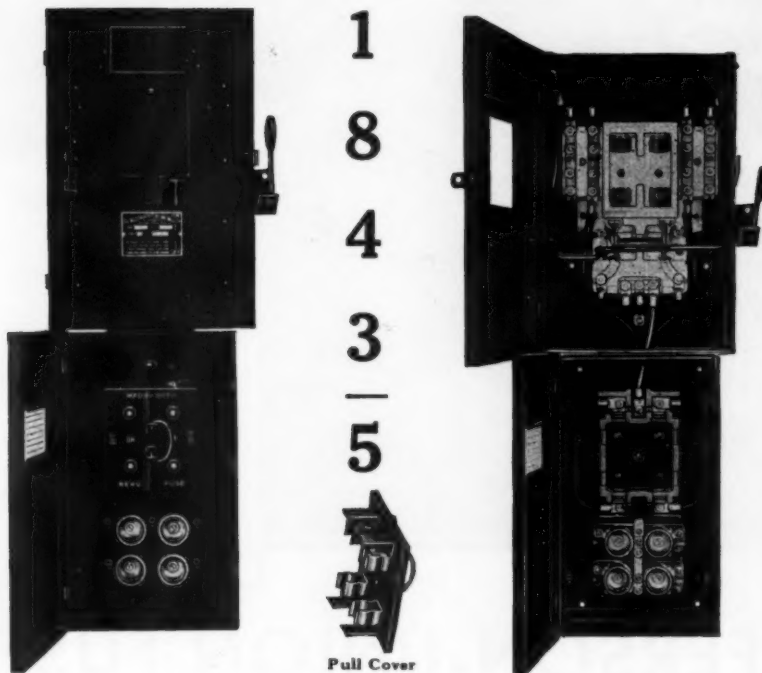


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LEADS DRIVE AGAINST "BOOTLEG" WIRING—Edward Murphy who has taken the lead in the Association's drive against "bootleg" wiring is executive secretary of Albany Chapter, Mohawk Electric League.

Dam, an extensive hydro-electric power project developed on the Ouachita River. It is 900 feet long and at the apex is 50 feet high—the first of a series of three power dams, which when completed with their power stations, will develop 120,000 HP of energy.

The convention program will be one of interest to every Electragist in attendance, with noted speakers from both government and industry relationships to the contractor's problems. Among the subjects to be discussed will be "Adequacy Standards in Wiring," "Trends in Electrical Ordinances," "Constructive Competition," "Rural Electrification," "Power Company Merchandising," "Motor Specialists' Problems" and "Electragist Chapters' Round-Table."

An interesting entertainment program will be provided for delegates and their ladies.

Jacksonville Chapter Appoints Officers

At the last meeting of the Jacksonville (Fla.) Chapter of Electragists, the following officers and committees were appointed: S. C. Reddick, president; T. C. Satchwell, vice-president, and W. H. Secrest, secretary and treasurer. The directors appointed are S. C. Reddick, W. A. Secrest, T. C. Satchwell, W. A. Stall and Ellis Yonge. C. E. James is chairman of the managership committee; W. A. Stall, chairman of the legislative committee, and C. E. James, chairman, publicity committee.



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The pages of this folder are replete with examples of some of the most important installations in the country. They represent the standard of modern wiring.

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Just ask for it!

THERE'S an extra profit in almost every wiring contract if you'll just ask for it. You can get this profit right on the job with no extra selling expense or selling time—and probably without competitive bids.

Almost every customer you work for needs better ventilation. Show him why he needs it and how you can supply it. If you can't sell him, you haven't lost a thing. If you do sell him you've sold an exhaust fan and an extra wiring job. It's easy money for you, Mr. Contractor, and a service that your customers will appreciate.

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It will pay you to specify Emerson Exhaust Fans for these jobs. Motors are all-enclosed—protected from dust and fumes. Fan blades are individually balanced and are especially designed to prevent churning and dead spots. Construction is pressed, welded steel to add lightness and prevent vibration. Wool-packed bearings require re-lubrication only once a year. Sizes, 12 inches to 36 inches, inclusive.



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In the Editor's Mail

Salvation Clauses

Editor,

ELECTRICAL CONTRACTING:

There is a question which has come up at various times relative to the salvation clause which architects and engineers place in their specifications, which in a great many instances, is very expensive to the contractors.

The gist of the thing is this:

If the architect and engineer's specifications state on their plans and in their schedule that certain sizes of wire, conduit, and the arrangement of equipment are to be used for a certain definite purpose, is the electrical contractor to take these plans as prepared and estimate upon them as is? Also, is the contractor to submit his estimate accordingly?

If he should receive the contract estimated upon the identical equipment as called for by the architect's or engineer's plans, must he, at his own expense, install an entirely different layout and different sizes of conduit and cable if the original specifications do not cover the exact requirements of the locality, whether they be an underwriters' requirements or those of a local city ordinance? That is the main point at issue.

There would be no question about it, except for the salvation clause which is used by so many architects and engineers that the entire equipment is to be installed in accordance with the Underwriters' and local city ordinance requirements.

You can readily see that if the contractor cannot take for face value the work that a paid engineer has presented, and is to calculate the sizes of all cables, wiring and arrangements himself, in order to be sure that the architect has not made a mistake, it makes an additional estimating cost.

This discussion might be interesting and helpful. So far as we are concerned, we have not any job where this condition exists, and it is a hypothetical case that we are picturing. Therefore, any discussion will be entirely impersonal.

DAVIS ELECTRIC COMPANY,
Geo. E. Davis, President.

Newark, N. J.

We would like to hear from any reader who has experienced such a situation, telling us how the matter was decided. Particularly are we interested in learning of any Court decisions covering this matter.—EDITOR.

UNDERFLOOR DUCT SYSTEM Provides Great Flexibility

Uniformly Spaced Outlets

After the duct is laid, it must be supported by a series of brackets or hangers. These are spaced at intervals of 4 to 6 feet, depending on the weight of the duct and the span between supports. The brackets are attached to the bottom of the duct and extend down to the floor. They are usually made of metal and are painted to match the floor.

ACKNOWLEDGED!

Under Floor Ducts in Office Buildings for Electric Wires

How to Install UNDER FLOOR DUCT

The ever increasing demand for flexible electrical distribution in modern buildings has made it necessary that the electrician should have a more flexible method of wiring than the old rigid conduit system.

Modern Electrical Convenience For Office Tenants

Under-floor Duct System in the New York Life Insurance Building

By Tyler Stewart Rogers

When the new president of a large bank reported to his manager to provide a new building for his office, he was told to look for a building that would be a modern one. The building was to be a modern one, and it was to be a modern one. The building was to be a modern one, and it was to be a modern one. The building was to be a modern one, and it was to be a modern one.

which people could stop. Before the electrician could start on the building, he had to know the location of the building. The building was to be a modern one, and it was to be a modern one. The building was to be a modern one, and it was to be a modern one. The building was to be a modern one, and it was to be a modern one.

UNDERFLOOR DUCTS In general, two lines of underfloor ducts are provided around the perimeter of each floor throughout the building. These lines of ducts are spaced at intervals of 4 to 6 feet, depending on the weight of the duct and the span between supports. The brackets are attached to the bottom of the duct and extend down to the floor. They are usually made of metal and are painted to match the floor.

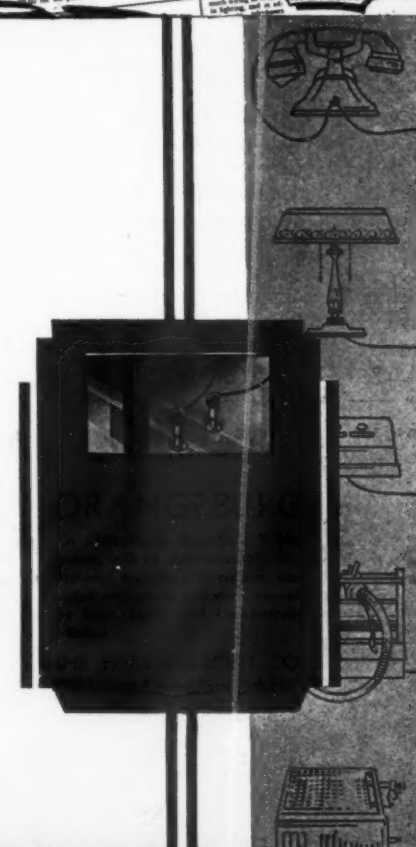
—the necessity of flexibility in wiring

THAT underfloor duct is a recognized essential in modern office buildings is evidenced by the ideas of many prominent architects and engineers, as presented in numerous articles in leading architectural and engineering publications.

Tenants, too, have come to realize the advantages of a flexible system of wiring, providing electric outlets when, where and as desired. Today, they are actually demanding underfloor duct.

Your building can't afford to be without underfloor duct. Specify it at the start and save expense later on.

Specify UNDERFLOOR DUCT



Contracting News

Information of Interest to Electrical Contractors consisting of items of news, short articles, practical ideas, etc. Our readers are invited to contribute to this department

Contractors Denounce Bidding on Labor Only

One of the major discussions at the convention of the Northern California Electragists held on May 21 at Oakland, Calif., was the subject of government work being contracted for on the basis of materials being furnished by the government and the contractor bidding on labor only. This practice has spread to state and city governments, industrial plants and construction companies. A resolution denouncing this practice and directing the Association of Electragists to take the matter up at Washington, and with

national manufacturers and wholesalers, was authorized and passed.

A resolution was also authorized urging the discontinuance of discounts to employees of power companies in the sale of appliances.

At the close of the afternoon session, the following officers were elected: Edward Martin, president; Thomas Harris, vice-president and William A. Cyr, secretary-treasurer. The executive committee comprises George Foss, Sacramento; Roy Butcher, San Jose; Harry Eklund, San Rafael; C. B. Kenney, San Francisco; John Holt, Santa Cruz and H. H. Courtright, Fresno.

Sweetman New President of Iowa Association

On May 25 and 26 the Iowa Association of Electrical Contractor-Dealers held its annual spring convention at the Burlington Hotel, Burlington, Iowa.



A. C. Sweetman, president.



M. J. Frazier, secretary-treasurer.

Mayor E. G. Marquardt of Burlington welcomed the members and was responded to by A. C. Sweetman of Waterloo. President Earl N. Peak reviewed conditions in the industry, past and present. Other speakers were A. Penn Denton, engineer-director, Armored Conductor and Metallic Flexible Conduit Section, NEMA, who spoke on "An Adequate vs. A Code Wiring Installation"; and Frank Langford, Minneapolis, A. E. I. executive committeeman, spoke on "Traffic Control in Our Business."

The second day was taken up with committee meetings of both the Association and Ladies' Auxiliary.

A. C. Sweetman of Sweetman
(Continued on page 73)



Banquet of the Iowa State Contractor-Dealers Association at Burlington Convention.

Suggested RESALE PRICES *for* Wiring Supplies

The prices listed on the following pages are merely suggested resale prices for the commonly used standard supplies and equipment employed in electrical construction work. They are based on average current trade costs throughout the country, very largely obtained from jobbers' price sheets, and are also based on average overhead charges.

* * *

Obviously, prices can be suggested only for the widely used products that are nationally distributed, and under no circumstances is this section intended to function as a directory of products or manufacturers.

* * *

The publishers wish to again emphasize that these are merely *suggested* resale prices and while every effort is made to make them universally applicable and accurate we cannot guarantee them or assume any responsibility for errors.

* * *

The prices appearing in this section will be completely revised each month as trade prices may change.

These prices apply only to the United States.

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Index

To Suggested Resale Prices

A

	Page
ACORNS—for Cords and Chains.....	PL-4 & 19
ADAPTORS and Reducers for Sockets.....	PL-4 & 19
ADAPTI Fittings and Boxes.....	PL-13 & 14
ADJUSTERS—for Cords.....	PL-4
ANCHORS or Expansion Shields.....	PL-10
ANNUNCIATORS—Bell.....	PL-4
ANNUNCIATOR Wire.....	PL-28
APPLETON Entrance Fittings.....	PL-13
ARMORED CABLE—BX and Similar.....	PL-9
" Fittings.....	PL-14
ASBESTOS Millboard.....	PL-4
" Cord for Appliances.....	PL-8
" Range Wire.....	PL-29
ATTACHMENT Plugs and Caps.....	PL-16
ATTACHMENTS—for Pull Sockets.....	PL-4

B

BABY KNIFE SWITCHES.....	PL-21
BAR Hangers for Boxes.....	PL-5
BASES—for Sockets.....	PL-19
BAYONET Sockets.....	PL-19
BELLS AND BUZZERS.....	PL-6
BELL Annunciators.....	PL-4
" Cords.....	PL-8
" Transformers.....	PL-28
" Wire.....	PL-29
BENDS and Elbows for Rigid Conduit.....	PL-9 & 11
BEND HICKS and Elbow Fittings.....	PL-13
BLOCKS—Wood for Fixtures.....	PL-8
" Enclosed Fuse.....	PL-9
BOLTS—Carriage, Stove and Toggle.....	PL-8
" Expansion and Anchor.....	PL-10
BOX—Connectors or BX Fittings.....	PL-14
BOXES—Adapti Boxes.....	PL-13
" Cable and Loom.....	PL-4-5 & 6
" Concrete.....	PL-5
" Conduit.....	PL-4-5 & 6
" Cutout or Service.....	PL-6
" Floor.....	PL-6
" Handy or Utility.....	PL-5 & 8
" Laundry.....	PL-4
" Mail.....	PL-15
" Outdoor Meter.....	PL-22 & 26
" Outlet.....	PL-5
" Switch.....	PL-4
" Entrance Switches—See Switches	
BRACKETS, Racks and Wireholders.....	PL-7 & 8
BREWERY CORD.....	PL-8
BUSHINGS for Rigid Conduit.....	PL-5 & 9
" Porcelain.....	PL-5
" for Sockets.....	PL-6 & 19
BUTTONS—Push for Bell Work.....	PL-6 & 7
" Ceiling P. & S. Porcelain.....	PL-8
BUZZERS AND BELLS.....	PL-6
BX-BXL Armored Cables.....	PL-9

C

CABINETS—Meter and switch.....	PL-16
CABLES—Armored and Lead Covered.....	PL-9
" Deck.....	PL-8
" Non-Metallic Romex, Etc.....	PL-9
" Packing House.....	PL-8
" Park—Non-Metallic.....	PL-29
" Park—Steel Taped.....	PL-29
" Rubber and Lead Covered.....	PL-28 & 29
" Stage.....	PL-8
CANDLE Sockets.....	PL-19
CANDELABRA Sockets.....	PL-19
CANOPY Switches.....	PL-20 & 21
CANVASITE Cord.....	PL-8

C—Continued

	Page
CAPS—for Attachment Plugs.....	PL-16
" Entrance Fittings.....	PL-13
CARRIAGE Bolts.....	PL-8
CEILING Switches.....	PL-21
" Buttons.....	PL-8
CHASE NIPPLES and Couplings.....	PL-16
CHAIN for Pull Sockets.....	PL-19
CIRCUIT Boxes and Residence Panels.....	PL-17
CLAMPS—Grounding.....	PL-9
" Hangers.....	PL-15
" Table for Bell Work.....	PL-7
" or Straps for Pipe.....	PL-9 & 27
CLEAT Rosettes.....	PL-19
CLEATS—Porcelain Insulator.....	PL-15
CLIPS or Straps for Pipe.....	PL-9 & 27
" for Loom.....	PL-9 & 15
COLORING Fluid or Liquid.....	PL-9
COMMERICAL Glassware.....	PL-14
CONCRETE Boxes.....	PL-5
CONDUIT—Rigid or Flexible Metal.....	PL-9
" Bushings and Locknuts.....	PL-5 & 9
" Couplings.....	PL-9
" Elbows and Bends.....	PL-9 & 11
" Fittings All Types.....	PL-11 to 14
" Flexible Armored.....	PL-9
" Hangers.....	PL-15
" Locknuts and Bushings.....	PL-5 & 9
" Nipples.....	PL-16
" Pennies.....	PL-9
" Reducers.....	PL-9 & 16
" Thin Wall.....	PL-9
CONDULETS—Fittings.....	PL-11 & 12
CONNECTORS—Armored for BX, Etc.....	PL-14
" Solderless.....	PL-10
" Fixture, Wire and Cord.....	PL-10
" Greenfield and BX.....	PL-14
" Cord and Motor.....	PL-10
COMPOUND—Pothead.....	PL-17
CORDS—All Types.....	PL-8
" For Pull Sockets.....	PL-19
" Extension—Made-Up.....	PL-10
CORD Adjusters.....	PL-4
" Armored Lamp.....	PL-9
" Connectors.....	PL-9 & 10
COUPLINGS—for Conduit.....	PL-9
COVERS for Outlet Boxes.....	PL-4 & 5
CURRENT TAPS.....	PL-1
CUTOUT Boxes—Steel.....	PL-6
CUTOUPS—Plug & Cartridge Enclosed.....	PL-9

D

DAMP PROOF Office Wire.....	PL-29
DECK Cable.....	PL-8
DELTABESTON Cord.....	PL-8
" Wire.....	PL-28
DIM-A-LITE Sockets.....	PL-19
DOOR Switches and Openers.....	PL-21
" Trips and Springs.....	PL-7

E

ELBOWS or Bends or Conduit.....	PL-9 & 10
ELECTROLET Entrance Fittings.....	PL-13
ENCLOSED Fuses.....	PL-10
" Cutouts.....	PL-9
ENTRANCE Fittings.....	PL-13
" Panel Switches Plug Type.....	PL-21
" Safety Switches.....	PL-21 to 27
ERICKSON Couplings for Conduit.....	PL-9
EXPANSION Shields and Bolts.....	PL-10
EXTENSION Cords made up.....	PL-10
" for Sockets.....	PL-19

F

	Page
FEDERAL Bushings and Similar.....	PL-5
FEED THRU and Pendant Switches.....	PL-21
FITTINGS—Armored Cable.....	PL-14
" Adapti.....	PL-13 & 14
" Condulets and Similar.....	PL-11 & 12
" Electrolets and Similar.....	PL-13
" Entrance All Types.....	PL-13
" Groundulets.....	PL-14
" Kondu Threadless.....	PL-12
" Spragulets and Wireless.....	PL-13
FIXTURE Blocks—Wood.....	PL-8
" Cords.....	PL-8
" Studs.....	PL-27
" Wire.....	PL-29
FLASHERS Skeedoodle Plugs.....	PL-16
FLEXIBLE Metal Conduit.....	PL-9
" Loom-Non-Metallic.....	PL-15
FLOOR Pushes and Treads.....	PL-6
" Boxes.....	PL-6
FLUSH Receptacles.....	PL-17 & 18
" Switches and Plates.....	PL-20
FRICITION Tape.....	PL-27
FUSES—All Types.....	PL-10
" Blocks—Enclosed.....	PL-9
FUSE Wire.....	PL-10
FUSENTERS and House Panelboards.....	PL-17

G

GASKETS—for Condulets.....	PL-11
G. E. Fittings—Entrance.....	PL-13
GEE VEE Fittings—Entrance.....	PL-13
GLASSWARE—Commerical.....	PL-14
" —Modernistic.....	PL-14
GREENFIELD Flexible Conduit.....	PL-9
" Connectors for Flexible.....	PL-14
GROUNDING Clamps.....	PL-9
GROUND Rods.....	PL-19
GROUNDULETS Fittings.....	PL-14
GUARDS—Lamp.....	PL-14

H

HANDY BOXES.....	PL-5
HANGERS—Conduit and Cable.....	PL-15
" for Outlet Boxes.....	PL-5
HANDLES—for Sockets.....	PL-19
" For Snap Switches.....	PL-20
HOLDERS—Shade.....	PL-15
HOUSE RACKS and Wireholders.....	PL-8

I

INCREASERS for Conduit.....	PL-16
INSULATED Nails.....	PL-16
INSULATING Links for Chain.....	PL-15 & 19
" Paint or Varnish.....	PL-17
" Staples.....	PL-16 & 27
IRON Plugs.....	PL-17

K

KNIFE Switches—Baby.....	PL-21
KNOBS—Tubes and Cleats.....	PL-14 & 15
KONDU Threadless Fittings.....	PL-12 & 15

L

	Page
LAG Screws.....	PL-27
LAMP GUARDS.....	PL-14
LAUNDRY Boxes.....	PL-4
LEAD Covered Armored Cables.....	PL-9
" Covered & Rubber Cov. Cables.....	PL-29
LEVOLIER Switches.....	PL-21
LINKS—Insulating.....	PL-15 & 19
" Renewable Fuse.....	PL-10
LIQUID for Coloring.....	PL-9
LOCKNUTS—Conduit.....	PL-8 & 15
LOOM—Non-Metallic Flexible.....	PL-15
" Clips.....	PL-9
LOCUST Pins.....	PL-7
LUGS—Soldering for Wire.....	PL-15
LUMINOUS Acorns for Cords.....	PL-4 & 19
" Buttons for Switches.....	PL-20

M

MAGNET Wire.....	PL-29
MAIL Boxes.....	PL-15
METAL Molding.....	PL-15
" Wiremold.....	PL-16
" Reflectors.....	PL-19
METER Boxes and Switches Outdoor.....	PL-22 & 26
METER and Switch Cabinets.....	PL-16
METER Service Switches.....	PL-21 to 27
MINIATURE and Candelabra Sockets.....	PL-18
MOGUL Sockets.....	PL-19
MOTOR Cord Connectors.....	PL-10
MOLDING Metal.....	PL-15 & 16
" Wiremold.....	PL-16
MULTI Bushings.....	PL-5

N

NAILS—Insulated.....	PL-16
NIPPLES for Conduit.....	PL-16
NON-METALLIC—Park Cables.....	PL-29

O

OFFICE Wire.....	PL-29
OPENERS—Door.....	PL-21
OUTDOOR Meter, Boxes and Switches.....	PL-22 & 26
OUTLET Boxes and Covers.....	PL-4 & 5
OVALDUCT Metal Moulding.....	PL-16

P

PANELBOARDS Small House Type.....	PL-17
PANEL Switches.....	PL-21
PARK Cable.....	PL-29
PASTE Soldering.....	PL-17 & 27
PENDANT Switches.....	PL-21
PENNIES—Conduit.....	PL-9
PINS—Locust.....	PL-7
PIPE—Rigid Conduit.....	PL-9
" Clamps and Straps.....	PL-9 & 27
" Nipples.....	PL-16
" Threaded.....	PL-17
PLATES for Receptacles.....	PL-18
" for Switches.....	PL-20
PLUG Cutouts.....	PL-9
PLUGS—Attachment and Appliance.....	PL-16
" Conduit.....	PL-9

P—Continued

	Page
POTHEAD Compound.....	PL-17
PORCELAIN Bushings.....	PL-5
" Cutouts.....	PL-9
" Knobs and Tubes.....	PL-15
PUSH Buttons, Treads, Springs.....	PL-7

R

RACKS and Wireholders.....	PL-7 & 8
RADIO RECEPTACLES.....	PL-18
RAWLPLUGS.....	PL-19
RECEPTACLES—Flush.....	PL-17 & 18
" Radio.....	PL-18
" Sign.....	PL-18
" Surface.....	PL-18
" for Conduit.....	PL-10 to 14
REDUCERS—Conduit.....	PL-9 & 16
" Chase.....	PL-16
" Socket.....	PL-4
REFLECTORS—Metal.....	PL-19
REMOTE CONTROL Switches.....	PL-21
RODS for Grounding.....	PL-19
ROMEX and Similar.....	PL-9
ROSETTES—Porcelain.....	PL-18
" for Conduit Fittings.....	PL-11 to 14
RUBBER TAPE.....	PL-27

S

SAFETY Switches—All Makes.....	PL-21 to 26
SALTS—Soldering.....	PL-26
SCREWS—Lag.....	PL-27
" Machine and Wood.....	PL-27
SERVICE Boxes or Cutout Boxes.....	PL-6
SHADE HOLDERS—Standard.....	PL-15
SHIELDS—Expansion.....	PL-10
SKEEDOODLE Flasher Plugs.....	PL-17
SLATE Base Cutouts.....	PL-9
SNAP Switches—Wall.....	PL-20
" Switches—Pull Cord Type.....	PL-20 & 21
SOCKETS—All Types.....	PL-19 & 20
SOCKET Adapters.....	PL-4
" Attachments.....	PL-4
" Bushings.....	PL-5 & 19
" Extensions.....	PL-19
" Handles.....	PL-19
" Twin.....	PL-19
SOLDER—All Types.....	PL-27
" Paste.....	PL-27
SOLDERING Lugs.....	PL-15
SOLDERLESS Connectors.....	PL-10
SPACERS—For Boxes.....	PL-4
SPEAKING Tubes.....	PL-15
SPRAGULETS Fittings.....	PL-13
SPRINGS—Window and Door.....	PL-6 & 7
SQUEEZE Connectors.....	PL-14
STAPLES for Bell Work.....	PL-16 & 27
STEEL Taped Park Cable.....	PL-29
STOVE Bolts.....	PL-8
STRAPS and Pipe Clamps.....	PL-9 & 27
STUDS for Fixtures.....	PL-27
SWITCH Boxes.....	PL-4
" Plates.....	PL-20
SWITCHES—Canopy.....	PL-21
" Door.....	PL-21
" Entrance and Panel.....	PL-21 to 27
" Flush-Push-Tumbler.....	
" Snap.....	PL-20
" Knife.....	PL-21
" Meter and Cabinet.....	PL-16
" Panel.....	PL-21

S—Continued

	Page
SWITCHES—Pendant and Feed Thru.....	PL-21
" Pull Cord.....	PL-20 & 21
" Remote Control.....	PL-21
" Time.....	PL-28
SWITCHES SAFETY ENTRANCE TYPE.....	
" Bulldog.....	PL-24 & 25
" Columbia.....	PL-25
" Murray.....	PL-26
" Noark.....	PL-24
Safety Square D.....	PL-21 & 22
Entrance Trumbull.....	PL-22
Type Trumbull-Vanderpool.....	PL-22 & 23
" Wadsworth.....	PL-26
" Westinghouse.....	PL-23 & 24

T

TABLE Clamps.....	PL-7
TAPE—Friction and Rubber.....	PL-27
TAPLETS—Conduit Fittings.....	PL-11
TAP—Current.....	PL-19
TELEPHONES.....	PL-28
" Wire.....	PL-29
TERMINALS and Soldering Lugs.....	PL-15
THIN Wall Conduit.....	PL-9
THREADED Pipe.....	PL-17
THREADLESS Conduit, Fittings.....	PL-12
TIME Switches.....	PL-28
TOGGLE Bolts.....	PL-8
" Switches.....	PL-20
TRANSFORMERS—Bell and Toy.....	PL-28
TREADS—Floor.....	PL-6 & 7
TUBES—Porcelain.....	PL-15
" Speaking.....	PL-15
TUMBLER Switches and Plates.....	PL-19
TWIN Sockets.....	PL-19

U

UTILITY Boxes.....	PL-5
UNILETS Conduit Fittings.....	PL-11

V

V. V. FITTINGS for Conduit.....	PL-11
VAPORPROOF Fittings.....	PL-12
VARNISH and Paint.....	PL-17

W

WEATHERCAPS Entrance Fittings.....	PL-13
WEATHERPROOF Wire.....	PL-29
" Conduit Fittings.....	PL-12
WIRE—Rubber Covered.....	PL-29
" Weatherproof.....	PL-29
" Annunciator.....	PL-29
" Asbestos Range.....	PL-29
" Connectors.....	PL-10
" Damp Proof.....	PL-29
" Deitabeston.....	PL-29
" Lead and Rubber Covered.....	PL-29
" Magnet.....	PL-29
" Telephone and Telegraph.....	PL-29
WIREHOLDERS and Brackets.....	PL-7 & 8
WIRELETS and Spragulets.....	PL-13
WIREMOLD.....	PL-16
WOOD Fixture Blocks.....	PL-8

Suggested Resale Prices for Wiring Supplies

These are merely suggested resale prices for the commonly used products that appear regularly on jobber price lists. They are figured on generally accepted principles for computing resale prices and should cover average conditions but are not guaranteed. (See note on title page.)

A-SUNDRIES

ASBESTOS

Asbestos Millboard—Per Pound—30c.

ANNUNCIATORS

House-Surface Type—Hand Reset

No. Drops	Ansonia Wood	Metal	Edwards No. 81 or Faraday No. 373	White Enamel	Edw. & Faraday	P. & W. Competition	Automatic
2	\$ 8.25	\$11.00	\$ 9.85	\$13.00	.....	.....	.....
3	9.35	12.45	11.00	14.80	.....	.....	.....
4	10.90	13.60	13.05	16.40	\$13.20	\$16.50	.....
5	12.65	14.85	.....	.....	.....	.....	.....
6	13.60	16.10	16.40	19.40	16.50	19.80	.....
8	16.10	18.90	19.40	22.75	19.80	24.75	.....
10	19.00	21.60	22.75	26.00	23.10	29.70	.....
12	21.50	24.25	25.90	29.15	26.40	.....	.....
15	27.00	30.25	.....	.....	.....	.....	.....
16	.....	34.60	40.00	42.90	.....	.....	.....
20	35.90	40.85	2.25	3.00	.....	.....	.....
Extra Drops	.....	.....	.....	.....	.....	.....	.....

(All other Annunciators—Sell at List less 10%)

COUCH

Electrical Reset

Number of Drops	Style D Face Type Wood Face	Price	Style F Flush Wood Face	Price	Style F Flush Metal Face	Price
4	DA 4	\$21.50	FA 4	\$44.80	FA 4	\$49.50
6	DA 6	26.50	FA 6	49.30	FA 6	55.00
8	DA 8	31.50	FA 8	53.80	FA 8	59.70
10	DA 10	36.50	FA 10	58.25	FA 10	64.70
12	DA 12	43.10	FA 12	64.25	FA 12	71.30
15	DA	.....	FA 15	73.10	FA 15	81.50
16	DA 16	56.50	.....	.....	.....	.....
20	DA 20	69.75	FA 20	88.15	FA 20	98.00

Add for each drop on any of above—\$4.15 per drop

ADAPTORS & REDUCERS

For Sockets and Vases

	Arrow	Benj. Bryant	G. E.	Hubbl.	Price
Mogul to Medium	292	98	421	070	\$0.50
Medium to Candelabra	392	.....	392	35699	.25
Candelabra to Miniature	391	.....	391	.....	.20
Medium to Intermediate	492	.....	9691	2644	.25
Parallel Blades to Edison	.....	1006	.....	682	.35
Plug in Pull Socket	35024	.....	35024	.....	1.00
Vase Adapters, Benjamin No. S, 831, 832, 833—Each	.....	.....	.....	.....	2.00
Two-Light Vase Adapter, Brush Brass or Gun Metal, Complete with Pull Sockets, Plug, 6 feet Silk Cord—Rodale No. V-41	.....	.....	.....	.....	4.00

EXTENSION ARMS FOR PULL SOCKETS

For Brass or Porcelain Sockets with 8"—10"—12" or 14" Reflex	\$0.65
16"—18" or 20"	.70

ADJUSTERS

For Cords

	Price
Universal Cord Adjuster Standard Size No. 1417 3 3/4" Long	\$.10
" " " Factory No. 1418 5 1/4" Long	.15
" " " Reinforced No. 1419 5 1/4" Long	.20
Ball Type No. 1403 & 5 for Type C Cord 3/8 hole	.10
No. 4634 & 5 for Reinforced Cord 1/2 hole	.12

ACORNS & TASSELS

Luminous Acorns and Pendants for Pull Chain	\$0.30
Brass Acorns and Tassels for Pull Chain	.10
Brass Acorns Adjustable for Linen Cord	.10
Insulating Link for Pull Chain	.15

BOXES, SWITCH

SECTIONAL SWITCH BOXES

Single Gang—For Switch and Recep. for Old or New Work

	Depth	Without clamps	Black	Galvd.
For Loom	2, 2 1/4 or 2 3/4	.....	\$ .18	\$.20
For BX Cable	2 1/4 " 2 3/4 "	With " "	.16	.19
" " " "	3 " "	With " "	.18	.20
For Rigid Conduit	1 1/4 to 2 3/4 "	Without " "	.32	.35
" " " "	3 & 3 1/2 "	Without " "	.19	.21
Spacers—For Spacer only deduct from any of above prices	.....	.....	.04	.05
Kruse Sw. Box Supports—G. E. No. 6010—10 1/2 " Long	.....	.....	.....	.20

With BRACKETS or EXTENDED EARS or LATH SUPPORTS

For New Work

	Depth	Without clamps	Black	Galvd.
For Loom	2, 2 1/4 or 2 3/4 "	.....	\$ .22	\$.25
For " " " "	2, 2 1/4 " 2 3/4 "	With " "	.25	.28
For BX Cable or Loom	2, 2 1/4 " 2 3/4 "	With " "	.31	.34
" Rigid Conduit	2 to 2 3/4 "	Without " "	.26	.29

SOLID GANG BOXES—GALVANIZED

Covers Extra

	2 Gang	3 Gang	4 Gang	5 Gang	6 Gang	7 Gang	8 Gang
Price of Box... \$	.85	\$1.20	\$1.60	\$2.15	\$4.15	\$6.25	\$8.65
Price of Cover..	.40	.60	.80	1.00	1.95	3.45	3.85

TANDEM SWITCH BOXES

		Black		Galvanized			
Loom, BX or Conduit		2 Gang	3 Gang	4 Gang	2 Gang	3 Gang	4 Gang
Tandem Boxes 1 1/4 & 2" Deep		\$.68	\$1.10	\$1.63	\$.81	\$1.23	\$1.90
" " " 2 1/4 & 2 3/4 "		.81	1.23	1.90	.95	1.37	2.18

DOOR SWITCH BOXES

	Black	Galvd.
For Rigid or Flexible Conduit without Clamps	\$.50	\$.55
" " " " with Clamps	.60	.65

LAUNDRY BOXES

	Black	Galvd.
Gem-Appleton or Raco, etc., with Single Receptacle	\$1.10	\$1.25
Duplex	1.25	1.35

For Concrete Boxes See Page PL-5.

For Solid Gang Boxes See Page PL-5.

BOXES & COVERS, OUTLET

CEILING BOXES, ROUND

Universal Nos.	Size and Description	Depth	Knockouts Bottom Side	Price Black Galvd.
36115	3 1/4 " With Lugs	1 1/4 "	3-1/2 " & 4 " Loom	\$0.09 \$0.11
36116	3 1/4 " No	1 1/4 "	3-1/2 " & 4 "	.07 .09
36125	3 1/4 " With " "	1 1/4 "	3-1/2 " & 4 "	.13 .15
36126	3 1/4 " No	1 1/4 "	3-1/2 " & 4 "	.11 .13
36716	3 1/4 " Flat Plate with Clamps	1 1/4 "	3-1/2 " & 4 "	.08 .10
56111	4 " With Ears	1 1/4 "	5-1/2 " or 6 " K.O.	.10 .12
56112	4 " No	1 1/4 "	5-1/2 " or 6 " K.O.	.06 .09
56115	4 " With Ears—Loom & Cond.	1 1/4 "	3-1/2 " & 6 " Loom	.11 .14
56116	4 " No	1 1/4 "	3-1/2 " & 6 "	.08 .10
56121	4 " With Ears	1 1/4 "	5-1/2 " or 6 " K.O.	.13 .15
56122	4 " No Ears	1 1/4 "	5-1/2 " or 6 " K.O.	.10 .12
56125	4 " Ears—Loom & Conduit	1 1/4 "	3-1/2 " & 6 " Loom	.15 .18
56126	4 " No Ears	1 1/4 "	3-1/2 " & 6 "	.15 .16
56712	4 " Flat Plate	1 1/4 "	5-1/2 " or 6 " K.O.	.06 .08

OUTLET BOXES, OCTAGON

Universal Nos.	Size and Description	Depth	Knockouts Bottom Side	Price Black Galvd.
24151	3 1/4 " Oct.-Conduit Box	1 1/4 "	1-1/2 " 4-1/2 "	\$0.10 \$0.12
24151	3 1/4 " " " " "	1 1/4 "	1-1/2 " 4-1/2 "	.12 .15
24151FS	3 1/4 " " " " " With Stud	1 1/4 "	1-1/2 " 4-1/2 "	.20 .22
54151	4 " Oct.-Conduit Box	1 1/4 "	5-1/2 " 4-1/2 "	.14 .16
54151	4 " " " " " " "	1 1/4 "	5-1/2 " 4-1/2 "	.15 .17
54151FS	4 " " " " " " " With Stud	1 1/4 "	5-1/2 " 4-1/2 "	.15 .17
54155	4 " -Cond. & Loom B...	1 1/4 "	9-1/2 " 12-1/2 "	.19 .23
54171	4 " -Conduit Box	2 1/4 "	1 1/2 " 4-1/2 "	.24 .28

These prices apply only to the United States

COVERS

For 3 1/4"-3 1/2"-4" Octagon or Round Boxes

			Black	Galvd.
24C-1	3 1/4"	Blank Cover Flat	\$0.04	\$0.07
24C-2	3 1/4"	Flat Raised	.05	.08
24C-6	3 1/4"	Flat with 1/2" K. O. in Center	.05	.08
24C-7	3 1/4"	Raised with 1/2" K. O.	.06	.09
24C-12	3 1/4"	1 1/2" Metal Bushing	.06	.09
24C-28	3 1/4"	Spider for Switch or Receptacle	.09	.10
24C-31	3 1/4"	Raised Federal Sign	.07	.09
24C-33	3 1/4"	Flat 1 1/2" hole for other	.18	.18
24C-35&36	3 1/4"	Raised 1 1/2"	.06	.08
24C-39	3 1/4"	Flat for fluted devices	.17	.19
54C-1	4"	Blank Cover	.05	.08
54C-2	4"	Flat Raised	.06	.09
54C-3	4"	Raised Open 1/2" Deep	.09	.09
54C-6	4"	Flat with 1/2" K. O. in Center	.06	.09
54C-7	4"	Raised with 1/2" K. O.	.08	.11
54C-12	4"	1 1/2" Metal Bushing	.07	.09
54C-28	4"	Spider for Switch or Receptacle	.08	.10
54C-31	4"	Raised Federal Sign	.07	.10
54C-33	4"	Flat 1 1/2" Hole for Std.	.10	.12
54C-35-6	4"	Raised 1 1/2" Ring	.07	.10
54C-39	4"	Flat for Fluted Devices	.20	.22
54C-48	4"	Raised 1/2" High Open	.07	.10

OUTLET BOXES—Square 4" & 4 1/16"

Universal No.	Size and Description	Depth	Bottom	Side	Black	Galvd.
51151	4" Sq. Comb. Gas & Elect.	1 1/2"	5-1/2"	8-1/2"	\$0.16	\$0.19
51151	4" Sq. Comb. Gas & Elect.	1 1/2"	5-1/2"	8-1/2"	.15	.21
52151	4" Conduit Box	1 1/2"	5-1/2"	10-1/2"	.15	.18
52151	4" Conduit Box	1 1/2"	5-1/2"	10-1/2"	.17	.21
52171	4" Conduit Box	2 1/2"	5-1/2"	10-1/2"	.10	.12
72151	4 1/16" Conduit Box	1 1/2"	5-1/2"	10-1/2"	.10	.12
72171	4 1/16" Conduit Box	2 1/2"	5-1/2"	10-1/2"	.10	.12

COVERS For 4" & 4 1/16" Square Boxes

52C-1	4" Sq. Blank Flat				\$0.07	\$0.10
52C-2	4" Flat Raised				.10	.13
52C-3	4" Flat Raised 1/2" High Open				.13	.15
52C-6	4" Flat with 1/2" K. O. in Center				.10	.12
52C-7	4" Raised with 1/2" K. O.				.14	.17
52C-12	4" 1 1/2" Metal Bushing				.12	.14
52C-13	4" 1 1/2" for Rect. Switch or Recept.				.10	.12
52C-14	4" 1 1/2"				.11	.13
52C-15	4" 1 1/2"				.16	.18
52C-16	4" 1 1/2"				.17	.20
52C-17	4" 1 1/2"				.14	.17
52C-18	4" 1 1/2"				.16	.19
52C-19	4" 1 1/2"				.21	.23
52C-21	4" 1 1/2"				.23	.25
52C-28	4" Flat Spider for Snap Switches				.16	.18
52C-31	4" Raised for Sign Rec.				.09	.10
52C-35-36	4" Fluted Devices				.14	.17
52C-39	4" with 2 1/2" Opening				.26	.29
52C-48	4" For French Fixture				.11	.13
52C-57	4" Single Sw. 1/4" High				.32	.35
52C-62	4" 1 1/2"				.10	.13
72C-1	4 1/16" Sq. Blank Flat				.27	.30
72C-2	4 1/16" Flat Raised				.30	.33
72C-3	4 1/16" Flat Raised				.32	.35
72C-7	4 1/16" Flat with 1/2" K. O. in Center				.32	.35
72C-12	4 1/16" 1 1/2" Bushing				.32	.35
72C-14-15	4 1/16" 1 1/2" for Switch or Rec.				.32	.35
72C-18	4 1/16" 1 1/2" for 2 Devices				.47	.50
72C-48	4 1/16" Open 1/2" High				.32	.35
Special	4" Cover for One Push or Toggle Switch or Single Duplex Receptacle				.20	.25
Covers	4" Cover Two Push or Toggle Switches or Two Receptacles or Any Combination of Two Devices				.34	.38

EXTENSION RINGS For Octagon & Square Boxes

25151	3 1/4" Octagon Ring—1 1/2" Deep	\$0.22	\$0.24
53151	4" or Square Ring 1 1/2" Deep	.24	.26
73151	4 1/16" Square Ring 1 1/2" Deep	.59	.61
55171	4" Octagon Ring 2 1/2" Deep	.40	.45
53171	4" Square 2 1/2"	.68	.73
73171	4 1/16" Square 2 1/2"	.63	.68

HANDY OR UTILITY BOXES & COVERS For Use With Rigid Conduit

Description	Universal Numbers	Price
Box 3 1/4"x1 1/4"x1 1/4" For Rigid Cond.	58151	\$0.22
Box 4 1/2"x1 1/4"x1 1/4" For Rigid Cond.	58361	.20
Box 4 1/2"x1 1/2"x1 1/4" For Rigid Cond.		.22
Box 4 1/2"x1 1/2"x1 1/2" For Rigid Cond.	58371	.22
Box 4 1/2"x1 1/2"x1 1/2" For Rigid Cond.		.22
Box 4 1/2"x1 1/2"x1 1/2" For Rigid Cond.		.60
Cover Flat Steel Closed	58C1	.08
Cover Porcelain with Holes		.13
Cover Raised for Flush Plug Recept.		.13
Cover for Sgle. Receptacle	58C5	.16
Cover for Duplex Receptacle	58C7	.16
Cover for Toggle Switch	58C30	.16
Cover for Sgle. Push Switch	58C3	.16
Cover for Sign Receptacle	58C33	.16
Cover for Snap Switches	58C28	.16
Cover with 1/2" K. O. Nipple	58C6	.16
Cover with Bushing for Cord	58C11	.16

CONCRETE BOXES WITH COVERS

Depth	1 1/4"	2"	2 1/2"	3"	3 1/2"	4"	5"	6"
Box & Back Plate with 1/2" Stud	\$0.240	.290	.320	.330	.360	.410	.450	.54
Box & Back Plate less 1/2" Stud	.21	.24	.27	.31	.32	.36	.41	.50
Plate only 4 1/2" Diam. without Fixture Stud 3 1/2" and 2 1/4" K. O.								\$0.09
Plate only 4 1/2" Diam. with 1/2" Fixture Stud 3 1/2" and 2 1/4" K. O.								.14
Plate only 4 1/2" Diam. with 1/2" Fixture Stud 3 1/2" and 2 1/4" K. O.								.18

SOLID GANG BOXES

Covers Extra	2	3	4	5	6	7	8
Box Price	\$3.85	\$1.20	\$1.00	\$2.15	\$4.15	\$6.25	\$6.65
Cover	.40	.60	.80	1.00	1.95	3.45	3.85

BOXES, OUTLET

NEW CODE OUTLET BOXES

Box Only

Size	Stud	Clamps	Bush Plates	Price	
3 1/4"x1 1/4" Round	Yes	Two	No	\$0.23	
3 1/4"x1 1/4" Round	No	Two	No	.23	
3 1/4"x1 1/4" Round	Yes	Two	No	.27	
3 1/4"x1 1/4" Octagon	No	Two	Two	.23	
3 1/4"x1 1/4" Octagon	Yes	Two	Two	.27	
3 1/2"x1 1/2" Round	No	Two	No	.18	
3 1/2"x1 1/2" Round	Yes	Two	Two	.23	
3 1/2"x1 1/2" Octagon	No	Two	Two	.23	
3 1/2"x1 1/2" Octagon	Yes	Two	Two	.27	
4x1 1/2" Octagon	No	Two	Two	.27	
4x1 1/2" Octagon	Yes	Two	Two	.32	
G.E. Cable Boxes for Straight Electric or Combination No. 5200-01.....					.20
Hope Cable Boxes for Straight Electric or Combination No. 2 & 4 & 14....					.20
Thomas & Betts No. 565-66-67-68 Standard Cable Boxes.....					.22
Thomas & Betts No. 553-554 Dead Ground Cable Boxes.....					.35
Thomas & Betts No. 160-161 Flush Wall Type Cable Boxes.....					.50

BAR HANGERS FOR OUTLET BOXES

Boxes Extra

(With 1/2" Fixture Stud)	Price
(With 1/2" Stud add 5c ea.)	
Straight Bar 18" Long	\$0.23
Straight Bar 24" Long	.30
Shallow Offset Bar 19 1/4" Long	.28
Shallow Offset Bar 24" Long	.35
Deep Offset Bar 19 1/4" Long	.28
Deep Offset Bar 24" Long	.35
Straight Old Work Bar 12"	.15
Box Cleat Bar 21"	.12
Straight Saddle Bar	.20

SET-UP BOXES WITH BARS

For Loom

Size	Ears	Clamps	Bush Plates	Galvd. Price
3 1/4"x1 1/4" Round	No	None	None	\$0.30
3 1/2"x1 1/2" Round	No	Two	None	.35
3 1/2"x1 1/2" Round	Yes	None	None	.35
3 1/2"x1 1/2" Round	Yes	Two	None	.40
For New Code Boxes				
3 1/4"x1 1/4" Oct.	Yes	Two	None	.45
3 1/2"x1 1/2" Oct.	Yes	Two	Two	.50
3 1/2"x1 1/2" Round	No	Two	None	.45
3 1/2"x1 1/2" Round	No	Two	Two	.45
4x1 1/2" Oct.	Yes	Two	None	.50
4x1 1/2" Oct.	Yes	Two	Two	.50
For Conduit				
4x1 1/2" Round	No	None	None	.30
4x1 1/2" Round	Yes	None	None	.35

BUSHINGS & LOCKNUTS

BUSHINGS & LOCKNUTS

For Rigid Conduit

	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"
Locknuts—Each	\$0.01	\$0.01 1/2	\$0.02 1/2	\$0.03 1/2	\$0.05	\$0.05
Bushings—Each	.02	.02 1/2	.03 1/2	.05	.08	.10
Locknuts—Each	\$0.08	\$0.11	\$0.19	\$0.32	\$0.40	\$0.58
Bushings—Each	.10	.20	.30	.40	.88	1.40

PORCELAIN CLAMP BUSHINGS

"Federal" or Equivalent

No.	K. O.	Inside Size	Outside Size	Wire Size	Bushing Each	Extra Ring Each
A-1	1 1/4"	1 1/4"	1 1/4"	No. 10	\$0.08	\$0.04
A-1 1/2	1 1/2"	1 1/2"	1 1/2"	No. 10	.10	.04
A-2	1 3/4"	1 3/4"	1 3/4"	No. 8	.10	.04
A-3	2"	2"	2"	No. 3	.12	.05
A-4	1 1/4"	1 1/4"	1 1/4"	No. 00	.15	.07
A-5	1 1/2"	1 1/2"	1 1/2"	450 CM	.22	.10
A-6	2"	2"	2"	1 Mill. CM	.45	.12
B-1	1 1/4"	1 1/4"	1 1/4"	No. 10	.20	.04
K-1	1 1/4"	1 1/4"	1 1/4"	No. 10	.32	.04
K-2	1 1/2"	1 1/2"	1 1/2"	No. 8	.37	.05

"MULTI" PORCELAIN CLAMP BUSHINGS

No.	Inside Size	Outside Size	For Wires	Price Each Complete
10	1/4"	1/4"	14 B & S	\$0.08
12	3/8"	3/8"	14 B & S	.12
15	1/2"	1/2"	14 B & S	.10
30	1/2"	1/2"	6 B & S	.20
40	3/4"	3/4"	2 B & S	.12
50	1"	1"	000	.20
55	1 1/4"	1 1/4"	350,000	.30
60	1 1/2"	1 1/2"	600,000	.38
			1,000,000	.45

PORCELAIN NO CLAMP BUSHINGS

Multi- With Spring Clip, Not Threaded

Catalog No.	Multi	90A	90B	91	92A	92B
Size of Hole	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
To Fit Hole	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
Price	\$0.06	\$0.06	\$0.06	\$0.07	\$0.07	\$0.07

These prices apply only to the United States

Push Buttons, Etc.

Brackets, Racks and Wireholders

PUSH BUTTONS, TREADS, SPRINGS

STANDARD PUSHES AND TREADS

Description	Price
Round 1 1/4" and 1 3/4" Stamped Brass.....	\$0.20
Round 2 1/4" Stamped Brass.....	.25
Round 2 1/4" with Card Holder Stamped Brass.....	.40
Rectangular 4x2" Stamped Brass.....	.40
Rectangular 3 1/4x1 3/4" Stamped Brass.....	.40
Oval 2 1/4" 1 1/4" Stamped Brass.....	.30
Oval 4 1/4x2" Stamped Brass.....	.45
Pear Push Buttons—Wood or Composition.....	.60
Pear Push Buttons—Metal, Nickel or Brass.....	.85
Desk Buttons—1/4" Hole—Nickel.....	.75
Desk Buttons—1/2" Hole—Nickel.....	.65
Desk Buttons—3/4" Hole—Nickel.....	.45
High Voltage 3/4" Hole—110 Volts.....	2.40
Table Clamp with Push Button.....	1.00
Floor Pushes Combination Nickel.....	.85
Floor Treads—"Daisy" "Dixie".....	1.50
Wood Push Buttons.....	.20

BAKELITE OR COMPOSITION PUSHES

Round Plain 1 1/4" Diam.....	\$0.30	Rectangular Plain 1 1/4x3 1/4".....	\$0.40
Octagon Fancy 1 1/4x1 1/4" Diam.....	.35	Rectangular Fancy 1 1/4x3 1/4".....	.60
Oct. Card Holder 2 1/4x2 1/4" Diam.....	.40	Rec. Double Card Holder.....	.85

DESK PUSHES—COMPOUND

Make and Description	1	2	3	4	5	6
Edw. #146—Bakelite Block.....	\$2.10	\$2.50	\$3.20	\$3.65	\$4.50	\$5.25
Edw. #197 Less Cord Bake. Bl.....	3.50	4.75	6.00	7.25	8.50	9.75
Edw. #197 with 6' Cord Bake. Bl.....	4.05	6.10	7.75	9.45	11.15	12.85
Edw. #190 Wood—Less Cord.....	4.00	5.35	6.60	8.10	9.40	10.85
Edw. #190 Wood with Cord.....	4.45	6.65	8.35	10.30	12.05	13.90
Fara. #4C Wood Less Cord.....	2.00	2.30	2.60	3.05	3.50	3.90
Fara. #2A Wood Less Cord.....	4.90	7.00	8.50	10.60	12.40	13.80
Fara. B.D.P. Bake. Less Cord.....	3.50	4.75	6.00	7.25	8.50	9.75
Fara. M.D.P. All Metal Less Cord.....	6.00	11.00	16.00	21.00		
P&W #4 Wood Less Cord.....	2.60	2.80	3.50	4.30	4.85	5.60
P&W #5 Wood Angle Less Cord.....				13.00		13.95
P&W #12 Wood Less Cord.....		3.30	4.25	5.45		6.00

DOOR AND WINDOW SPRINGS

Door Springs		Window Springs	
Open Circuit Door Spring.....	\$0.40	Open Circuit Single.....	\$0.60
Closed Circuit Door Spring.....	.50	Open Circuit Double.....	.85
Open Circuit Make and Break.....	.50	Close Circuit Single.....	1.00
Open Circuit Door Trip.....	1.00	Open Circuit Transom.....	1.60

OTHER PUSH BUTTONS

Ansonia

Round Stamped	Price	Round Cast	Price
514 1 1/4" Loose Back.....	\$0.30	511 1 1/4" Loose Back.....	\$0.90
515 2 1/4" Loose Back.....	.40	512 2 1/4" Loose Back.....	1.00
579 1 1/4" Flush Push.....	1.00	508-10 2 1/4" Loose Back.....	1.00
E33 1 1/4" Flush Push.....	1.00	540 2 1/4" Loose Back.....	.60
		550 2 1/4" Loose Back.....	.85
		570 2 1/4" Loose Back.....	.75

Other Ansonia Push Buttons, Etc.

F-33 Stamped Flush Push.....	\$0.70	545 Oblong 2 Gang for Cards.....	\$1.85
G-33 Stamped Diamond Push.....	.70	545 Oblong 3 Gang for Cards.....	2.65
521 Stamped Push.....	.75	545 Oblong 4 Gang for Cards.....	3.65
528-534 Stamped Push.....	.95	546 Oblong 1 Gang.....	1.65
536-537 Stamped Push Loose Back.....	1.00	547 Oblong 2 Gang.....	1.50
		548 Oblong 1 Gang.....	.75
538 Stamped Oblong Push.....	1.25	549 Oblong 1 Gang.....	1.20
541 Oblong for Card.....	1.65	577 Diamond Push.....	.70
544 Oblong for Card.....	1.20	578 Diamond Push.....	.75
Combination Floor Pushes Complete 573.....			2.50
700 1 Point Wood Base Switch.....			.45

Edwards

Round Desk Buttons		Oblong Push Buttons	
621— $\frac{1}{4}$ " Hole.....	\$1.40	602—2 Gang for Cards.....	\$1.00
622— $\frac{1}{2}$ " Hole.....	1.45	607—Single for Cards.....	.40
625— $\frac{3}{4}$ " Hole.....	.50	608—Single.....	.45
1786—2 $\frac{1}{2}$ " Watertight.....	3.00	650—Single Solid Cast Brass...	1.10

Partrick & Wilkins

Round Push Buttons

Stained Wood Push #2.....	\$0.15
Oak Wood Regular #1.....	.35
Oak Open, Closed and Dbl. Cont. #1.....	.65
Oak Triple Contact #1.....	.90
Cast Brass 1 1/4" Diam. #8.....	.55
Cast Brass 2 1/4" Diam. #0.....	.65

Oblong Pushes

16 Cast Brass 4 1/4x1 1/4" Screw Cap.....	\$1.55
31 Cast Brass 5x2 1/2" Screw Cap.....	2.15
44 Cast Brass 4x2" Screw Cap.....	1.40
708 Wrought Push and Speak 1 Pce.....	1.00
907 2 Button and Card Holder.....	2.15
908 3 Button and Card Holder.....	2.95
909 4 Button and Card Holder.....	4.55

OTHER PUSH BUTTONS—Continued

Partrick & Wilkins

Desk Push Buttons

Car Push 1/4" Hole Black Center.....	\$0.45
Multiple 1/4" Hole Black Center.....	1.35
Pony 1/4" Hole Black Center.....	1.85

Pear Shape Pushes

Compound Maple 2 Button.....	\$2.00
Compound Maple 3 Button.....	3.00
Wood Rosettes for above.....	.40

MULTIPLE PUSH BUTTONS

Couch "Pushrites"

With Card Holders

Number of Buttons	Plain Base Number	Wood Base Type Price	Weighted Base Number	Price	Flush Brass Plate Type Number	Price
4	7900	\$ 3.35	7980	\$ 3.75	7940	\$ 5.00
6	740	4.60	780	5.20		
8	7910	5.80	7990	6.65	7950	9.15
12	7921	8.80	79010	9.60	7960	13.30
16	7930	10.80	79020	12.45	7970	17.50
20	793	13.30	7902	15.40	797	21.60

COUCH UNMOUNTED PUSH BUTTONS "WORKRITES"

No. 97 for 1/2" Hole.....	\$0.50
Adaptor No. 0684 for same.....	.05

BRACKETS, RACKS AND WIREHOLDERS

G. E.—Hubbard—Joslyn and National

HOUSE BRACKETS

For Pin Type Insulators, Less Insulators

Description	No. of Wires	Spacing	Price	Description	No. of Wires	Spacing	Price
Light Type	One		\$0.25	Corner Type	One		\$0.30
	Two	9"	.55		Two	9"	.55
	Three	6 1/2"	.90		Three	6 1/2"	.80
	One		.40				
Heavy Type	Two	9"	.80				
	Three	6 1/2"	1.10				

HOUSE RACKS

With Insulators Attached

	One	...	\$0.40		Two	4"	\$1.10
Light Type	Four	4 1/2"	.95	Heavy Type		8"	1.65
	Two	6"	.80			4"	1.75
	Three	3"	.95			8"	2.10
	"	6"	1.20			Four	4"	2.20
						Five	4"	2.70

WIREHOLDERS

Separable Base With Insulator

Light Type	Two	6"	\$0.55	Light Type	Three	4 1/2"	\$0.80
		9"	.60			6"	.85

WIREHOLDERS

With Insulators Attached

Light Type	One		\$0.30	Heavy Type	One		\$0.65
	Two	6"	.55		Two	6"	1.25
		9"	.55		Four	6"	1.30
	Three	4 1/2"	.80		Three	6"	1.85
		6"	.85			6"	1.05

SECONDARY RACKS

With Insulators Attached

Light Type	Two	6"	\$0.90	Heavy Type	Two	8"	\$1.30
	Three	6"	1.30		Three	8"	2.15
	Two	6"	.85		Two	8"	1.20
	Three	6"	1.20		Three	8"	1.35
	Two	8"	.90			8"	2.00
	Three	8"	1.30				

These prices apply only to the United States



INDIAN WHITE



INDIAN BLACK



HOOVER BLDG.
35th St. & 8th Ave.
New York

THE CONTRACTOR'S OBLIGATION TO HIMSELF

INSTALLING electrical equipment and supplies involves an intimate knowledge of quality and performance. The job must do more than just carry out the builder's specifications; it must satisfy the contractor's personal obligation that he has used his best judgment in good engineering and materials that reflect credit on his work.

Mohawk contains those elements which Electrical Contractors and Builders desire in Rigid Conduit. Heavy material for strength; imperviousness from acids for safety; tough, smooth, glossy finish for long life. It bends easily and threads clean and even. Mohawk Conduit may be had in either Indian Black (enamel) or Indian White (galvanized).

The "Book of Facts" is descriptive of all you want to know about Rigid Conduit. Send for your copy, it's free.

MOHAWK

MOHAWK CONDUIT CO., INC., COHOES, N. Y.

BRANCH OFFICES: NEW YORK - CHICAGO - PHILADELPHIA - BOSTON
INDIANAPOLIS - NORFOLK - MINNEAPOLIS - DENVER - SEATTLE
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AMERICAN STEEL & WIRE COMPANY ELECTRICAL WIRES AND CABLES

Where Reliability Governs Choice

Although wire is but a small item in the total cost of a great structure—it is, after installation, of vital importance to efficient and economical operation. Realizing this, leading contractors and engineers choose electrical wires and cables on past records and performance. In a great majority of cases their specifications call for products of the American Steel & Wire Company. It will pay you to get all of the facts. Write us for complete information.

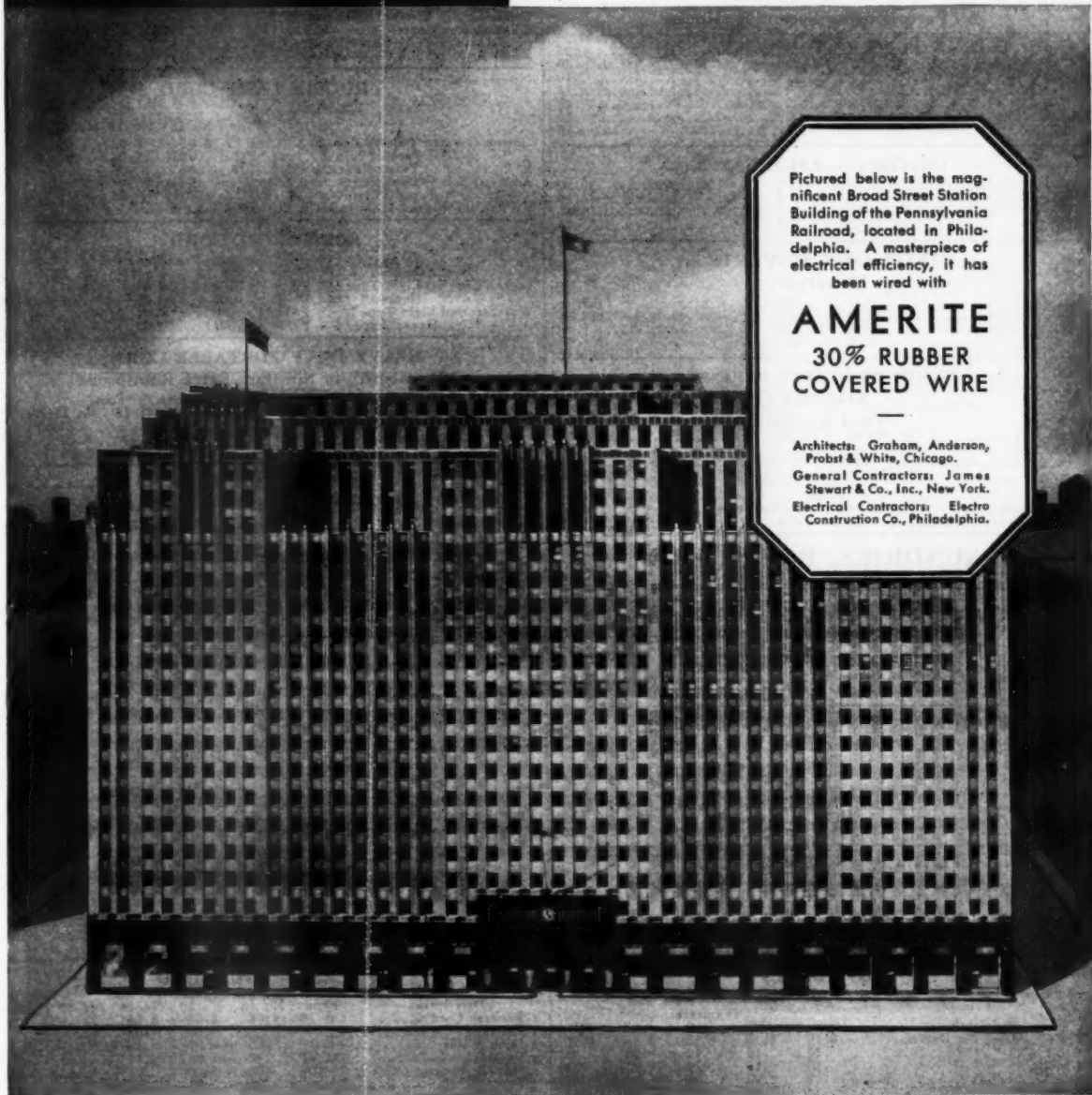
Pictured below is the magnificent Broad Street Station Building of the Pennsylvania Railroad, located in Philadelphia. A masterpiece of electrical efficiency, it has been wired with

AMERITE
30% RUBBER
COVERED WIRE

Architects: Graham, Anderson, Probst & White, Chicago.

General Contractors: James Stewart & Co., Inc., New York.

Electrical Contractors: Electro Construction Co., Philadelphia.



1831



1931

AMERICAN STEEL & WIRE COMPANY

208 South La Salle Street, Chicago

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

And All Principal Cities

Pacific Coast Distributors: Columbia Steel Company, Ross Building, San Francisco

Export Distributors: United States Steel Products Company, New York

BRACKETS, RACKS, WIRE HOLDERS
Continued

Findlay—G. E.—Hubbard—Joslyn—National

WIRE HOLDERS

All Porcelain Screw Type Single Point

Description	Price
2 3/4 x 2 1/2—20x2" Wood Screw.....	\$0.20
1 1/2 x 2 1/2—20x2" " ".....	.14
2 3/4 x 3 1/2—22x2 1/2" " ".....	.25
2 1/2 x 3 1/2—22x2" " ".....	.20
Swinging Round Knob 22x2" Wood Screw.....	.35
" Oblong " 22x2" " ".....	.35
" Round " 3/4x3" Lag Screw.....	.35
Rigid Oblong Knob 22x2" Wood Screw.....	.25
" Large 2 1/2x2 1/2" " ".....	.60

SPOOL INSULATORS

All Porcelain For Secondary Racks

Description	Price
3" x 3 1/2" One Groove.....	\$0.20
3" x 3 1/2" Two ".....	.30
2" x 3 1/2" One ".....	.10
2 1/2" x 2 1/2" " ".....	.15
3" x 3 1/2" " ".....	.18
Oblong Insulator-Light Type.....	.15
" Heavy Type.....	.18

UNIVERSAL RACK UNITS

Description	Price
Rack Foot.....	\$0.20
4" Extension.....	.25
8" ".....	.35
12" ".....	.45

INSULATOR SUPPORTS

Universal

Size	Price	Size	Price
1".....	\$0.24	2 1/2".....	\$0.85
1 1/2".....	.40	1 1/2".....	.50
2".....	.60	2".....	.65

WOOD BRACKETS & PINS

Standard

Wood Brackets

Description	Price	Description	Price
1 1/2 x 2 x 10.....	\$0.07	1 1/2 x 2 x 12.....	\$0.08
1 1/2 x 2 x 12.....	.08	2 x 2 1/2 x 12.....	.10
1 1/2 x 2 1/2 x 12.....	.09	2 x 2 3/4 x 12.....	.10
		2 x 3 x 12.....	.15

Pins

Description	Price	Description	Price
Locust 1 1/2 x 8.....	\$0.06	Locust 1 1/2 x 9.....	\$0.10
Oak 1 1/2 x 8.....	.05	Oak 1 1/2 x 9.....	.08

B-SUNDRIES, BOLTS, ETC.

CARRIAGE BOLTS

Galvanized

Diam.	3"	3 1/2"	4"	4 1/2"	5"	5 1/2"	6"
1/2" Each.....	\$0.03	\$0.04	\$0.04	\$0.05	\$0.05	\$0.06	\$0.07
3/4" ".....	.06	.07	.07	.08	.08	.09	.10

MACHINE BOLTS WITHOUT WASHERS

Galvanized

Diam.	3"	4"	5"	6"	Length	7"	8"	10"	12"	14"	16"	18"
1/2" Each.....	\$0.04	\$0.05	\$0.05	\$0.06								
3/4" ".....	.08	.09	.10	.11	.12	.14	.16	.18	.20			
1" ".....	.13	.15	.17	.19	.21	.23	.25					
1 1/4" ".....	.22	.24	.26	.29	.32	.35						

FLAT CROSS ARM BRACES

Galvanized

Diam.	20"	22"	24"	26"	28"	30"	32"
1 1/2 x 1/4.....	\$0.20	\$0.20	\$0.25	\$0.25	\$0.30	\$0.30	\$0.35
1 1/4 x 3/8.....	.20	.25	.25	.30	.30	.35	.35

STOVE BOLTS

Round or Flat Head

Length	3"	3 1/2"	4"	4 1/2"	5"	5 1/2"	6"
Up to 1" Long Per Dozen.....	\$0.10	\$0.10	\$0.12	\$0.15	\$0.20		
1 1/4 to 1 1/2" ".....	.10	.10	.12	.20	.30		
1 1/2 to 2" ".....	.10	.12	.15	.25	.35		
2 to 3" ".....	.20	.25	.30	.40			
3 1/2 to 4" ".....	.25	.30	.35	.45			

TOGGLE BOLTS, STEEL

"Paine"

Size—Diameter	2"	3"	3 1/2"	4"	5"	6"
1/2" Long Price Each.....	\$0.10	\$0.10	\$0.10	\$0.10	\$0.11	\$0.12
3/4" ".....	.10	.10	.10	.10	.11	.12
1" ".....	.11	.11	.12	.12	.13	.14
1 1/4" ".....	.13	.13	.14	.14	.15	.16

NOTE: For Brass Toggle Bolts—2 1/2 times above prices.

These prices apply only to the United States

REDUCING WASHERS

For Outlet Boxes & Steel Cabinets

Reducing Washers	1/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"
Price Each.....	\$0.02	\$0.02	\$0.03	\$0.04	\$0.05	\$0.06

K. O. SEALS

For Outlet Boxes & Steel Cabinets

For Closing 1/2" K. O.....	\$0.04
For Closing 3/4" K. O.....	.06
For Closing 1" K. O.....	.06
Ceiling Button—F & S Porcelain No. 170—Each.....	.12
Switch Bases—See Snap Switches Page PL-10.	

CORDS, FIXTURE, LAMP AND HEATER

SINGLE FIXTURE CORD

Single Lamp Cord	Type	Price Per Foot	No. 13	No. 16	No. 14	No. 12
Single Cotton Covered Cord—Light	F-04	\$0.01	\$0.02	\$0.03 1/2		
Single Cotton Covered Cord—Heavy	F-32	.01 1/2	.02	.03		
Single Artificial Silk Cord—Light...	F-04	.01 1/2	.02 1/2	.03		
Single Artificial Silk Cord—Heavy...	F-32	.01 1/2	.03	.04		

DOUBLE LAMP CORD

Regular Lamp Cord

Regular Lamp Cord	Type	Price Per Foot	No. 13	No. 16	No. 14	No. 12
Cotton Covered Twisted Pair.....	C	\$0.02	\$0.02 1/2	\$0.04	\$0.06	
" Parallel Pair.....	PO	.02 1/2	.04	.06		
" Twisted Parallel Pair.....	PD	.03	.05			
Artificial Silk Twisted Pair.....	C	.02 1/2	.04	.06		
" Parallel Pair.....	PO	.02 1/2	.05	.07		

P. D. Cord is not listed in N. E. C. Code Approved Cords.

REINFORCED CORD

Not Asbestos	Type	Price Per Foot	No. 13	No. 16	No. 14	No. 12
Cotton Covered Light Type 1/4".....	PS	\$0.03	\$0.04	\$0.07		
" Heavy 1/2".....	P	.04	.05	.07		
Weatherproof Light Type 1/4".....	PSWP	.03 1/2	.04			
" Heavy Type 1/2".....	PWP	.04	.05	.07		

HEAVY DUTY PORTABLE CORD

"Duracord" or Similar. Extra Reinforced

Type	Price Per Foot	No. 13	No. 16	No. 14	No. 12	No. 10
P5 Light 3 Cond. Port. Cord.....	\$0.08					
" P Heavy 3 " " ".....	.11	.13	.17	.22	.30	
" P " 3 " " ".....		.14	.22	.26	.36	

ALL RUBBER CORD

"Tirex" "Royal" "Super-Service" "Indestructo" or Similar

Description	Price Per Foot	No. 13	No. 16	No. 14	No. 12	No. 10
SJ Junior 2 Conductor Black.....	\$0.06	\$0.06				
" " 2 " Green.....	.08	.10				
" " 3 " Black.....	.11	.14				
S Type Heavy 2 Conductor Black.....	.12	.14	\$0.19	\$0.24	\$0.30	
" " 3 " " ".....	.15	.16	.24	.29	.39	
" " 4 " " ".....	.17	.21	.29	.38	.48	
" " Sgle. Cond. Black.....	.08	.09	.10	.11	.13	

HEATER CORD

Description	Price Per Foot	No. 13	No. 16	No. 14	No. 12	No. 10
Stand. Twisted or Wound Asbest. 1/4".....	\$0.05	\$0.05	\$0.06	\$0.08	\$0.10	
American Beauty Heater Cord Super Flexible.....	.09			.12	.21	
Rockbestos Heater Cord.....	.07	.07 1/2	.08	.10	.20	
Universal No. 9092 Super Flexible.....		.07	.08			

Description	Price Per Foot	No. 13	No. 16	No. 14	No. 12	No. 10
"Deltabeston" Heater Cord.....						
Type A Asbestos Braid overall Loco Cab Cord.....	\$0.09		\$0.10	\$0.11	\$0.13	
" C Cotton Braid overall.....	.07	.08	.08	.10		
" D " on ea. cond.....	.07	.09	.08	.10		
" E Cotton on ea. Cond. & over both.....	.08	.10	.09	.11		

NOTE—For Armored Cords See Page PL-9.

Extension Cords See Page PL-10.

Fixture Wire See Pages PL-26 & 27.

Bell Wire See Page PL-27.

MISCELLANEOUS CORD

Description	Type	Price Per Foot	No. 13	No. 16	No. 14	No. 12	No. 10
1 Brewery Cord.....	CC	\$0.03	\$0.04	\$0.05			
1 Canvassite Cord.....	CC	.05	.06	.08			
1 Deck Cable.....	PWP	.05	.07	.10			
1 Packinghouse Cable.....	PKWP	.05	.06	.07 1/2			
1 Stage & Theatre Cable.....	T	.05	.06	.07 1/2	\$0.14	\$0.16	
Type "K".....	K	.05	.06	.07 1/2			

Type "K" replaces Brewery, Canvassite and Packinghouse Cable. They are not included in present listing of N. E. C. Code Approved Cords.

Note—These prices are based on less than colliot trade prices.

CONDUCTING BELL CORD

Spun Silk

Number of Conductors	2	3	4	5	8	10	14	18
Price Per Foot.....	\$0.08	\$0.15	\$0.20	\$0.21	\$0.25	\$0.35	\$0.50	\$0.70

Note—For Armored Lamp Cord See Page PL-9.

CONDUIT, ELBOWS, COUPLINGS,
BUSHINGS, ETC.

RIGID CONDUIT

	Black Per Foot	Galv. Per Foot	Cutting & Threading Per Thread	Cutting Only Per Cut
1/2"	\$.10	\$.11	\$.20	\$.10
3/4"	.11	.12	.20	.10
1"	.16	.17	.25	.10
1 1/4"	.22	.24	.30	.15
1 1/2"	.26	.29	.35	.18
2"	.35	.39	.50	.20
2 1/2"	.55	.62	.80	.25
3"	.72	.80	.90	.30
3 1/2"	.92	1.03	.70	.30
4"	1.12	1.23	.80	.30

THIN WALL CONDUIT

	1/2" or 3/4"	1"	1 1/4"	1 1/2"	2"
Threadless.....Per Foot	\$0.09	\$0.12	\$0.16	\$0.22	\$0.26
Adaptor Wpl. ....Each	.15	.25	.35	.65	.85
Couplings or Conn.....	.15	.25	.35	.65	.85
Elbows less Coupling.....				.50	1.10

NOTE—One Coupling is included with each 10 ft. Length Conduit.

ELBOWS OR BENDS, COUPLINGS, OR UNIONS,
BUSHINGS, LOCKNUTS, REDUCERS

Price Each

Size Each	Bends or Elbows Black Galv.	Couplings Black Galv.	Bushings Galv.	Locknut Galv.	Unions Galv.	Reducers Galv.
1/2"	\$.14	\$.16	\$.09	\$.10	\$.02	\$.01
3/4"	.18	.21	.15	.14	.02 1/2	.01 1/2
1"	.28	.32	.16	.18	.05	.02 1/2
1 1/4"	.38	.43	.23	.24	.08	.06
1 1/2"	.51	.58	.28	.31	.10	.08
2"	.83	.95	.37	.41	.20	.11
2 1/2"	1.35	1.55	.53	.59	.30	.19
3"	3.58	4.08	.72	.79	.40	.32
3 1/2"	7.87	9.00	.96	1.04	.88	.40
4"	9.10	10.40	1.20	1.30	1.40	.58

Also on Page PL-10.

Also on
Page
PL-5Also on
Page
PL-12

CONDUIT PENNIES

Size	Price	Size	Price
1/2"	\$0.01	2"	\$0.04
3/4"	.01	2 1/2"	.05
1"	.01 1/2	3"	.07
1 1/4"	.02	3 1/2"	.08
1 1/2"	.03	4"	.10

FLEXIBLE METALLIC CONDUIT
"Greenfield", "Flexsteel", or Similar

	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Single Strip Per Foot....	\$.09	\$.12	\$.14	\$.19	\$.40	\$.64
Double Strip Per Foot....	.11	.14	.17	.23	.42	.71

For Fittings for Metallic Conduit See Page PL-14.

For Non-Metallic Conduit or Loom See Page PL-15.

For Steel Armored Cable & Lead Covered See Next Item.

RUNNING THREAD, PIPE

Price per Foot	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	\$.25	\$.30	\$.45	\$.55		

CONDUIT PENNIES

Price Each	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	\$.01	\$.01	\$.01 1/2	\$.02	\$.03	\$.04

CONDUIT WOOD PLUGS

Price Each	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	\$.02	\$.03	\$.04	\$.08	\$.14	\$.22

For Pipe Straps, see Page PL-25. For Solder, Sticks, etc., Page PL-23.

CABLE, ARMORED & NON-METALLIC
SHEATHEDARMORED CABLE, "BX", "ABC", "FLEXSTEEL", OR
SIMILAR

			Price Per Foot No. 14 No. 12 No. 10
TWO CONDUCTOR	Solid	Single Strip	\$.05 \$.08 \$.11
THREE CONDUCTOR	Stranded	" "	.08 .11 .14
FOUR CONDUCTOR	Solid	" "	.18 .22 .25
ONE CONDUCTOR	Stranded	" "	.09 .10 .11
OVALFLEX	Solid	" "	.08 .12 .16
	2 Conductor	" "	.12 .16 .20
	3 Conductor	" "	.12 .16 .20
			Price Per Foot No. 8 No. 6 No. 4
TWO CONDUCTOR	Solid	Single Strip	\$.18 \$.20 \$.40
THREE CONDUCTOR	Stranded	" "	.22 .32 .54
FOUR CONDUCTOR	Solid	" "	.12 .14 .15
ONE CONDUCTOR	Stranded	" "	.13 .15 .20

Anti-Short Fibre Bushings for ABC Cable, Each.....\$.01

Clips or Staples 1/2" for Armored or Non-Metallic Cable, Each.....\$.01

"ABC" LEAD COVERED ARMORED CABLE

		Price Per Foot No. 14 No. 12 No. 10
Single Conductor Solid Lead Covered	" "	\$.08
Two Conductor Solid	" "	.16 .19 .25
Three " Solid	" "	.22 .26 .31
" Stranded	" "	

		Price Per Foot No. 8 No. 6 No. 4
Single Conductor Solid Lead Covered	" "	\$.15 \$.22
Two " Stranded	" "	.34 .45
Three " Solid	" "	.46 .64
" Stranded	" "	

"ABC" ARMORED LAMP CORD

	Single Strip	Per Foot No. 18 No. 16 No. 14
Plain Armored Lamp Cord, Two Conductor.....	\$.11	\$.12 \$.15
Add 30% for Double Strip		

NON-METALLIC SHEATHED CABLE

"Romex", "Loomwire", "Wireflex", or similar

	(With or Without Ground Wire)	#14	#12	#10	#8	#6	#4
Wire 2 Conductor per Foot.....	\$0.05	\$0.07	\$0.10	\$0.15	\$0.23	\$0.28	
Wire 3 Conductor per Foot.....	.08	.10	.13	.20	.27	.43	
Fitting-Straps Each.....	.01	.01	.01	.01	.01	.01	
Fitting-Clips Each.....	.03	.03	.03	.03	.03	.03	
Fitting-Connectors Each.....	.10	.10	.20	.20	.30	.55	

CUTOUTS OR FUSE BLOCKS

PLUG CUTOUTS

Description	Price
Single Pole—Main Line.....	62569 \$.25
Double " ".....	62965 .35
Triple " ".....	62168 .60
Double Pole Single Branch.....	61985 .35
" " Double.....	62587 .55
" " Single or Double Cross Branch.....	8020 .40
Triple to D. P. Double Branch.....	62199 .60
Triple Pole Single Branch.....	8042 .65
" " Double.....	62135 .85

DEAD FRONT CUTOUT BASES

Plug Type—30 Amp.

	With Short Cover Numbers	Price	With Long Cover Numbers	Price
BRYANT				
3 Wire Double Branch—4 Circuit....	72035	\$3.35	82035	\$3.65
G. E. or TRUMBULL				
3 Wire Single Branch—2 Circuit.....	2435	3199	1.35	2436
" Double.....	2440	4199	1.80	2441

ENCLOSED CARTRIDGE CUTOUTS OR BASES

	0-30 Amp.	31-60 Amp.	61-100 Amp.
Single Pole Main Line Enclosed Porcelain.....	\$.40	\$.65	\$1.20
Double " ".....	.55	1.20	2.30
Triple " ".....	.85	1.65	3.30
Double Pole Single Branch Porcelain.....	.75	1.60	3.30
" " Double.....	1.25	3.30	6.60
Triple to Double Pole Double Branch Porcelain ..	1.50	3.80	7.70
Triple Pole Single Branch Porcelain ..	1.30	3.00	6.00
Triple Pole Double Branch Porcelain ..	2.40	5.40	11.00
Single Pole Main Line Cutout Base 600 Volt.....	.70	1.00	1.80

SLATE BASE

	250 Volt	600 Volt	30 A. 60A. 100A. 200A. 400A. 600A.
Single Pole-Slate Base-250 V.....	\$.60	\$.90	\$1.25 \$2.10 \$5.20 \$6.60
" 600 V.....			1.60 2.60 6.00 7.15

Prices on cutouts do not include fuses

C-SUNDRIES

GROUND CLAMPS

	1/2" to 1"	1 1/2" to 2"	2 1/2" to 3"	3 1/2" to 4"
Standard Adjustable Ground Clamps, any make	\$.12	\$.15	\$.20	\$.35
Blackburn.....	No. 3 \$.24	No. 4 \$.28	No. 5 \$.35	No. 6 \$.45
Other Types	1/2" 1" 1 1/2" 2" 2 1/2" 3"			
Chase Shawmut 3660-68	\$.25	\$.30	\$.35	\$.45
G. V. A Series 5000.....	.25	.30	.35	.45

STRAPS, CLIPS OR CLAMPS

	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
Galvnd. Straps, 2 Hole	\$.01	\$.01	\$.01	\$.01	\$.02	\$.02	\$.04	\$.05
No. Straps per Pound.....	45	40	25	20	13	12	7	5
Light Steel Straps, 1 Hole	.04	.05	.06	.08	.10	.15	.25	.45
Mail Iron Clamps, 1 Hole	.06	.07	.08	.11	.15	.25	.45	.60
P & S Conduit Clamps								
With Bolts-Series 1400	.10	.14	.18	.20	.25			
Clips for Loom.....						.2c	Each or 3 for 8c	

COLORING & FROSTING LIQUID

	7 ounce Cans	15 ounce Cans	30 ounce Cans	1/2 Pint Bottle	1 Pint Bottle	Quart Bottle
Crescent (McGill).....	\$2.50	\$4.00	\$7.50	\$1.25	\$2.50	\$5.00
Celco.....				1.25	2.50	5.00
Permacolor.....				1.65	3.00	5.00

These prices apply only to the United States

SMALL FIXTURE & WIRE CONNECTORS

Solderless

Insulated Solderless Wire or Fixture Connectors Similar to "Ideal"	
"Marr" "Sherman" "Simplex" "S.R.K." "Wirelets" "Wiremold" Etc.—each	\$.08
E-Z Insulated Solderless Wire or Fixture Connector.....	.03
Non-Insulated Solderless Wire Connectors—2 Screw—All Metal....	.10

SET SCREW CONNECTORS

Round Brass

	Wire Size	No. 12-14	No. 10	No. 8	No. 6	No. 4
Divided Wall-2 Screws.....	2	\$.06	\$.08	\$.09	\$.10	\$.14
Hole Thru " 4 "	4	"	.16	.12	.13	.18
" " 2 "	2	"	.11	.13	.15	.20
	Wire Size	No. 2	No. 1 1/2	No. 2 1/2	No. 3 1/2	No. 4 1/2
Divided Wall-2 Screws.....	2	\$.15	\$.26	\$.32	\$.50	\$.80
Hole Thru " 4 "	4	"	.24	.30	.45	.60
" " 2 "	2	"	.22	.28	.30	.45

SOLDERLESS CONNECTORS

Dossert, Frankel or Penn-Union

	No.	No.	No.	No.					
	to	1/0	2/0	3/0	4/0	250,000	300,000	400,000	500,000
Size Cond.....	3	to 1/0	2/0	3/0	4/0	\$1.65	\$1.90	\$2.50	\$2.08
2 Way L's.....	\$0.75	\$0.80	\$1.00	\$1.20	\$1.40				
Cable Taps.....	1.05	1.20	1.40	1.75	2.10	2.40	2.85	3.75	4.65
3 Ways & Y's....	1.05	1.20	1.40	1.75	2.10	2.40	2.85	3.75	4.65
Lugs FB Ang.....	.55	.60	.70	.90	1.10	1.20	1.40	1.85	2.40

CORD & MOTOR CONNECTORS

CORD & MOTOR CONNECTORS					
Arrow	Complete		Body Only		Cap Only
	No.	Price	No.	Price	Price
Midget Arrowtex	8239	\$1.00			
Motor Conn.	RP-8221	.70	8221	\$.65	RP . \$1.10
"	RA-8222	.75	8222	\$.65	RA .15
"	RH-8224	1.30	8224	.85	RH .45
"	RG-8281	1.25	8281	.80	RG .45
"	8334 & 35	1.30	8335	1.30	8334 1.30
Bryant					
Motor Midget	KT-130	.70	130	.65	KT .10
" Conn.	KG-103	.90	103	.65	KG .90
GE					
Cord Conn.	1346-1347	.90	1347	.45	1346 .45
"	.....	.....	1351	.65	2527 .10
"	2719	1.25	2720	.95	2721 .45
"	2715	.75	2716	.65	2717 .10
"	.....	.....	1347	.40	1346 .40
Hubbell					
Cord Connector	.....	.....	5574	.85	5896 .30
"	0116	.75	6118	.65	5964 .10
"	.....	.....	6630	.55	6631 .20
"	0180	.65	6630	.55	6181 .10
"	5518	.60	5574	.85	5420 .25
"	.....	.....	7084	.85	7056 .50
"	.....	.....	7091	1 10	7092 .75
"	.....	.....	6409	.85	6149 .45
Weber					
Cord Connector	2274	.60	.74	.45	2200 .20
Wirt					
Cord Connector	55	.55			

NOTE: For Attachment Plugs and other caps—See Pages PL-16 & PL-17

NOTE: For Attachment Plugs and other caps—See Pages PL-16 & PL-17

E-SUNDRIES

EXTENSION CORDS—MADE UP

With Plug & Socket, but Guards-Lamps & Handles Extra

Length in Feet	With Lamp Cord and Key Socket	With Reinforced Cord		With Artificial Silk Cord and Key Socket	
	No. 18 Twisted	Key Socket		Twist. or Paral.	
		No. 18	No. 16	No. 18	No. 16
4 Foot.....	\$.75	\$.80	\$.85	\$.80	\$.85
6 ".....	.80	1.00	.95	.90	.95
8 ".....	.85	1.00	1.05	1.00	1.05
10 ".....	.90	1.10	1.20	1.10	1.20
12 ".....	.95	1.20	1.30	1.20	1.30
14 ".....	1.00	1.30	1.45	1.30	1.45
16 ".....	1.05	1.40	1.55	1.40	1.55
18 ".....	1.10	1.50	1.65	1.50	1.65
20 ".....	1.15	1.60	1.75	1.60	1.75
22 ".....	1.20	1.65	1.85	1.65	1.85
24 ".....	1.25	1.75	1.95	1.75	1.95
Length in Feet	With All Rubber Cord and Weatherproof Socket				
		Light		Heavy	
		No. 18	No. 16	No. 18	No. 16
4 Foot.....		\$1.00	\$1.10	\$1.15	\$1.25
6 ".....		1.20	1.30	1.40	1.50
8 ".....		1.35	1.50	1.65	1.75
10 ".....		1.50	1.70	1.90	2.00
12 ".....		1.75	1.90	2.15	2.25
14 ".....		1.90	2.10	2.40	2.50
16 ".....		2.10	2.30	2.65	2.75
18 ".....		2.25	2.50	2.80	3.00
20 ".....		2.40	2.70	3.15	3.25
22 ".....		2.65	2.90	3.40	3.50
24 ".....		2.80	3.10	3.65	3.75

ELBOWS & BENDS

ELBOWS & BENDS For Rigid Conduit

	Size	1/2"	3/4"	1"	1 1/4"	1 3/4"
Black.....		\$.14	\$.18	\$.28	\$.38	\$.51
Galv.....		.16	.21	.32	.43	.58
	Size	2"	2 1/2"	3"	3 1/2"	4"
Black.....		\$.83	\$1.35	\$3.68	\$7.87	\$9.16
Galv.....		.95	1.55	4.08	9.00	10.40

EXPANSION SHIELDS & ANCHORS

(Ackerman—Johnson—Chicago Expansion Bolt
—Diamond—Dryvin—Packtite—Paine—Star or Similar)

Screws Not Included.

Expansive Screw Anchors or Caulking Anchors for Machine Screws or Bolts.		Hammer Drive Anchors With Nail Shield	Nail Price
Size Screw or Bolt	Price	Size of Shield	
6-32 Screw	\$0.06	3/8"x1 1/2"	.06
8-32 "	.07	3/4"x1 1/2"	.07
10-24 "	.08	7/8"x1 1/2"	.08
12-24 "	.10	1"x1 1/2"	.09
1-4x20 Bolt	.12	3/4"x1 1/2"	.10
5-16x18 "	.15	3/4"x1 1/2"	.12
3-8x16 "	.18	3/4"x2 1/4"	.14
7-16x14 "	.20	3/4"x2 1/4"	.16
1-2x13 "	.20	3/4"x2 1/4"	.20
5-8x13 "	.20	3/4"x2 1/4"	.22
		3/4"x3 1/4"	.25

Multi-Size Screw Anchors

		Screw Size			
		5 to 10	8 to 14	16 to 20	16 to 20
Length of Anchor.....		$\frac{3}{4}$ "	1"	1"	$1\frac{1}{4}$ "
Price Without Screw.....		\$0.04	\$0.05	\$0.06	\$0.08

LAG SCREW ANCHORS (Diamond or Similar)

Takes Lag Screw	$\frac{3}{8}"$	$\frac{3}{4}"$	$\frac{3}{8}"$	$\frac{3}{4}"$	$\frac{1}{2}"$
Price Without Lag Screw	\$.15	\$.15	\$.18	\$.25	\$.35
Takes Lag Screw		$\frac{3}{8}"$	$\frac{3}{4}"$	$\frac{3}{4}"$	$\frac{1}{2}"$
Price Without Lag Screw		\$.40	\$.60	\$.90	\$1.00

FUSES

PLUG FUSES

Standard Plug Fuses—Any Make—\$.07 each or 5 for \$.35
(Some Manufacturers put these fuses up 4 in a box, in which case they should be retailed at 4 for \$.25.)

ENCLOSED FUSES, NON-RENEWABLE

Amps.	Non-Indicating Price Each		Indicating Price Each	
	250 Volts	600 Volts	250 Volts	600 Volts
	Fuse	Fuse	Fuse	Fuse
1 to 30.....	\$.15	\$.35	\$.25	\$.55
35 to 60.....	.25	.50	.40	.85
70 to 100.....	.80	1.15	1.25	1.85
110 to 200.....	1.55	1.95	2.30	3.10
225 to 400.....	7.75	4.50	6.50	8.90
450 to 600.....	8.25	6.15	6.80	9.00
650 to 800.....	4.90	11.15	13.85	17.35

RENEWABLE FUSES

		Fuses		Links	
Amps.		250 Volts	600 Volts	250 Volts	600 Volts
1 to 30.....		\$.50	\$ 1.10	\$.03	\$.05
35 to 60.....		1.00	1.25	.03	.05
65 to 100.....		2.00	3.00	.10	.15
110 to 200.....		4.00	5.00	.15	.25
225 to 400.....		7.50	11.00	.30	.30
450 to 600.....		11.00	16.00	.60	.60

FUSE WIRE

FUSE WIRE					
Size in Amps.....		1/4	1/2	1	2
Price Per Pound.....		\$68.00	\$63.50	\$39.65	\$23.30
Price Per Foot.....		.01	.01	.01	.01
Size in Amps.....	3	5	6	10	15
Price Per Pound.....	\$2.00	\$1.50	\$1.50	\$1.30	\$1.30
Price Per Foot.....	.01	.01 1/4	.02	.02 1/4	.03
Size in Amps.....	20	25	30	40	50
Price Per Pound.....	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00
Price Per Foot.....	.04	.05	.07	.08	.10
Size in Amps.....	60	70	75	80	90
Price Per Pound.....	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00
Price Per Foot.....	.15	.20	.21	.22	.24
					.25
Fuse Strip Any Amperage..... \$1.00 per lb.					

OPEN LINK FUSES

Small Wire Type

	1 to 30	35 to 60	65 to 100
Size in Amps.....	Amps.	Amps.	Amps.
Numbers.....	00-0-1-2-3	3-5-5	5
Price Each.....	\$.12	\$.16	\$.23

Large Strip Type

Size in Amps.	25-100	110-200	225-600
Numbers	7	7 to 16	10 to 16
Price Each	\$.23	\$.30	\$.60

Size in Amps.	425-600	600-800	800-1500
Numbers	10 to 16	28	40
Price Each	\$1.10	\$1.85	\$6.95

STAMPED SHEET METAL LINK FUSES

Type of Link.....	B	C	D	E-F-H-I-L-M
C to C Distance.....	1½	2½	2½	See Catalog
Price Each.....	\$.11	\$.11	\$.16	\$.30

These prices apply only to the United States

Electrical Contracting, July, 1931

THREADED CONDUIT FITTINGS

STANDARD TYPES, COVERS EXTRA
"Condulets" "Taplets" "Unilets" "Electrolets" "V. V."
"Adaptilets" Etc.

Form 7		1/4"	3/8"	1"	1 1/2"	1 3/4"
A		\$.33	\$.44	\$.60	\$.87	\$ 1.12
B		.40	.50	.70	1.75	2.10
C		.50	.57	.83	1.32	1.71
CO-COV		.70	.91	1.05	1.75	2.25
E		.40	.50	.70	1.12	1.46
F	Form 7	.70	1.12	1.75	3.06	4.46
LB-LF-L-LR-LRB		.56	.63	.91	1.47	1.96
LFB-LLB-LRB		.56	.63	.91	1.47	1.96
LBL-LBR		.91	1.12	1.33	1.75	2.80
P-PA		1.95	2.20	2.40	.....	.....
PC-PL		2.10	2.30	2.50	.....	.....
PT		2.40	2.65	2.95	.....	.....
PX		2.50	.....	3.10	.....	.....
TA All One Size		.67	.80	1.12	1.71	2.10
TA All One Size		.98	1.03	1.40	2.18	3.22
TB-TL-TR		.68	.81	1.12	1.71	2.38
U-UB		.68	.75	1.10	1.76	2.35
X All One Size		.84	1.09	1.47	1.96	2.50
Gaskets		.14	.14	.21	.28	.28
Reducers		.31	.31	.28	.28	.56
Connectors CCT		.40	.45	.49	1.54	1.96
Unions U. N. Y.		.65	.75	1.10	1.75	2.65

Form 7		2"	2 1/2"	3"	3 1/2"	4"
A		\$2.32	\$5.46	\$ 6.50	\$10.60	\$11.70
B		3.05	3.46	7.90	9.10	16.65
C		3.40	6.24	8.10	11.70	14.30
CO-COV		4.45	6.75	10.27	16.38	17.95
E		3.00	5.46	6.50	10.60	11.70
F	Form 7	7.00	10.66	13.26	23.53	32.50
LB-LF-L-LR-LRB		3.50	6.50	8.45	13.65	15.60
LFB-LLB-LRB		3.50	6.50	8.45	13.65	15.60
LBL-LBR-LW		3.72	8.52	.....	.....	.....
T All One Size		3.58	6.50	9.75	14.30	16.90
TA All One Size		5.53	.....	.....	.....	.....
TB-TL-TR		3.58	6.50	9.75	14.30	16.90
U-UB		4.20	7.80	10.15	16.38	18.75
X All One Size		4.90	7.80	13.00	16.90	20.80
Gaskets		.35	.35	.52	.65	.65
Reducers		.70	1.30	1.78	2.80	3.58
Connectors CCT		3.01	.....	.....	.....	.....
Unions U. N. Y.		4.10	6.65	11.15	.....	.....

Form 6 LB Fittings See PL-13		1/4"	3/8"	1"	1 1/2"	1 3/4"
A		\$.33	\$.44	\$.60	\$.87	\$ 1.12
B		.40	.50	.70	1.75	2.10
C		.50	.57	.83	1.32	1.71
CO-COV		.70	.91	1.05	1.75	2.25
E		.40	.50	.70	1.12	1.46
F	Form 6	.70	1.12	1.75	3.06	4.46
LB-LF-L-LR-LRB		.56	.63	.91	1.47	1.96
LFB-LLB-LRB		.56	.63	.91	1.47	1.96
LBL-LBR		.91	1.12	1.33	1.75	2.80
P-PA		1.95	2.20	2.40	.....	.....
PC-PL		2.10	2.30	2.50	.....	.....
PT		2.40	2.65	2.95	.....	.....
PX		2.50	.....	3.10	.....	.....
TA All One Size		.67	.80	1.12	1.71	2.10
TA All One Size		.98	1.03	1.40	2.18	3.22
TB-TL-TR		.68	.81	1.12	1.71	2.38
U-UB		.68	.75	1.10	1.76	2.35
X All One Size		.84	1.09	1.47	1.96	2.50
Gaskets		.14	.14	.21	.28	.28
Reducers		.31	.31	.28	.28	.56
Connectors CCT		.40	.45	.49	1.54	1.96
Unions U. N. Y.		.65	.75	1.10	1.75	2.65

COVERS

For Above

			1½"	¾"	1"	1¼"
Porcelain Covers with Holes.....			\$.14	\$.21	\$.35	\$.51
Composition " " .....			.28	.42	.70	1.40
" " Blank.....			.42	.56	.84	1.54
Porcelain " For Drop Cord.....			.49	.56	.....	.....
" " Weatherproof.....			.22	.35	.....	.....
Metal Covers Blank Sheet Steel.....			.12	.16	.33	.45
" " Cast Iron.....			.21	.31	.49	.70
" " with ¾ Nipple.....			.28	.35	.59	.....
" " " ¾ ".....			.33	.40	.54	.....
" " " ¾ ".....			.35	.42	.56	.....
			1½"	2"	2½ & 3"	3½ & 4"
Porcelain Covers with Holes.....			\$.67	\$.84	\$ 1.12	\$ 1.26
Composition " "			1.55	1.68	.....	.....
" " Blank.....			1.68	1.96	4.46	6.30
Porcelain " For Drop Cord.....			.....	.....	.....	.....
" " Weatherproof.....			.63	.....	.....	.....
Metal Covers Blank Sheet Steel.....			.63	.79	1.10	1.10
" " Cast Iron.....			.98	1.26	1.61	1.75
" " with ¾ Nipple.....			.....	.....	.....	.....
" " " ¾ ".....			.....	.....	.....	.....
" " " ¾ ".....			.....	.....	.....	.....

RECEPTACLES & ROSETTES

For Above

FOR ABOVE				1 1/2"	1"	3/4"
Plug Receptacles	10 Amp.	2 Pole	250 Watt	\$.36	\$.63	\$.70
"	"	15 "	2 "	"	"	"
"	"	20 "	2 "	125 "	.63	.70
"	"	15 "	2 "	250 "	.77	.84
"	"	10 "	3 "	250 "	.84	.....
"	"	15 "	3 "	250 "	.....	.91
"	"	20 "	3 "	250 "	1.10	1.20
Lamp Receptacle	600 Watt	with Shade Holder	.....	.42	.49	.56
Cord Rosette	"	"	.....	.42	.49	.56

FS SERIES FOR FLUSH DEVICES
Shallow Type Without Covers. Any Make

No. Gangs	No. Pipe Outlets	Series	1/4"	3/8"	1"
Single Gang	One	FSC-FSL	\$.91	\$1.08	\$1.10
"	Two	FSC-FSL-FSR- FSLA-FSS-FSAA	1.05	1.26	1.54
"	Three	FSCA-FSCC- FSCST-FST	1.40	1.75	2.03
"	Four	FSX-FSCD	1.68	2.10	2.38
Two Gang	One	FSC-FSA	1.68	1.82	1.96
"	Two	FSC-FSS	1.82	1.96	2.17
"	Three	FSD	2.03	2.17	2.31
2 Gang Tandem	One	FS	3.21	3.45	3.56
"	Two	FSC	3.45	3.59	3.73
Three Gang	One	FS-FSA	.....	2.52	2.75
"	Two	FSC	.....	2.66	2.87
"	Four	FSC	2.73	3.01	3.35
"	One	FS-FSA	.....	3.08	3.34
Four Gang	Two	FSC-FSSSE	.....	3.29	3.50
"	Five	FSD	3.44	4.00	4.30

COVERS FOR FS FITTINGS

[illegible]

COMBINATION COVERS FOR FS SERIES

2	Gang for One Switch and one Sgle. or Duplex Receptacle.....	\$.70
2	" " " " " " Bull's Eye with Jewel	1.75
2	" " " " " " One lift cover Receptacle	1.05

RECEPTACLES & PLUGS

Type	3 Pole, 250 Volt D. C.	30 Amp. A. C.	Style 1
Crouse-Hinds or Similar	15 Amp.	1"	60 Amp.
QEE Receptacle	\$10.20	\$10.35	\$10.45
QE	10.10	10.20	10.35
AJA	"	"	"
AB	"	"	"
CP Watertight Plug	9.70	9.70	9.70
	15.45	15.45	17.60

G & H WITHOUT ADJUSTABLE BAR

Type Crouse Hinds or Similar	5 Amp.			10 Amp.		
	$\frac{1}{2}''$	$\frac{3}{4}''$	1"	$\frac{1}{2}''$	$\frac{3}{4}''$	1"
G.L.	\$.36	\$.70	\$1.05	\$.70	\$.91	\$1.19
GL.	.63	.77	1.12	.77	.98	1.26
GA-GLA-GT.	.84	.98	1.33	.98	1.19	1.50
GTA-GX-GXA.	1.05	1.19	1.66	1.19	1.40	1.82
H.	.42	.66	.91	.84	.77	1.04
HA.	.49	.63	.98			
HH.	.56	.70	1.05	.70	.91	1.19
HHC.	.84	.98	1.33	.98	1.19	1.50
HLA.	.63	.77	1.12	.77	.98	1.26

da

Cross Hinds or Similar	3/4"	20 Amp.	1"
G.....	.90	\$1.05	\$1.40
GL.....	1.05	1.10	1.61
GA-GLA-GT.....	1.20	1.40	1.82
GTA-GX-GXA.....	1.60	2.48	3.25
H.....	.84	.91	1.25
HA.....	.91	.98	1.40
HH.....	.98	1.05	1.40
HHC.....	1.20	1.40	1.81
	1.05	1.10	1.61

G & H WITH ADJUSTABLE BAR

Type Crouse Hinds or Similar	5 Amp.			10 Amp.		
	$\frac{3}{4}$ "	$\frac{5}{8}$ "	1"	$\frac{3}{4}$ "	$\frac{5}{8}$ "	1"
G.....	\$.77	\$.91	\$1.26	\$.91	\$1.12	\$1.40
GL.....	.84	.98	1.33	.98	1.19	1.50
GA-GLA-GT.....	1.05	1.19	1.54	1.19	1.19	1.68
GTA-GX.....	1.26	1.40	1.89	1.40	1.61	2.03
GXA.....	1.50	1.71	2.17	1.71	1.82	2.31
H.....	.63	.77	1.12	.77	.98	1.36
HA.....	.79	.84	.99	.84	1.05	1.35
HH.....	.77	.91	1.26	.91	1.12	1.40
HHC.....	1.05	1.19	1.54	1.19	1.40	1.68
HXA.....	.84	.98	1.33	.98	1.19	1.50

Type
 Case History

Crouse Hinds or Similar	1/4"	20 Amp.	1"
G.....	\$1.26	\$1.83	\$1.68
GL.....	1.33	1.50	1.89
GA-GLA-GT.....	1.54	1.68	2.10
GTA-GX.....	1.76	1.96	2.53
GXA.....	1.96	2.24	2.80
H.....	1.12	1.19	1.54
HA.....	1.19	1.26	1.68
HH.....	1.26	1.33	1.68
HHC.....	1.54	1.68	2.10
	1.33	1.60	1.96

COVERS FOR G & H SERIES

Description	For G & H Fittings Without Adjustable Bar		For G & H Fittings With Adjustable Bar	
	5 Amp.	10 Amp.	20 Amp.	5 & 10
Porcelain Cover with Wire Holes . . .	\$.28	\$.35	\$.56	\$.71
Blank Sheet Steel Cover . . . . .	.21	.28	.45	.50
" " Cast " " " "	.35	.42	.56	.28
Sheet Steel with 1/4" Brass Nipple . .	.35	.42	.49	.28
" " " " " " " "	.42	.49	.56	.35
" " " " " " " "	.50	.56	.63	.42
" " " " " " " "	.56	.63	.70	.50
Receptacle Covers No Shadeholder .	.70	.70	.....	.....
" " " " " " " " With " " " "	1.12	.....	.....	.....

DEVICES FOR G & H SERIES

Lamp Receptacles one piece with or without Shadeholder Groove.....	\$.85
" " two " without " "	.70
Cord Rosette Porcelain.....	.63
" " Composition.....	.56
	.70

J & K SERIES WEATHERPROOF

	3/4"	1"
J-JB-JU.....	\$.84	\$1.05
L.....	.98	1.19
T.....	1.19	1.50
X.....	1.33	1.50
K.....	1.50	1.61
K-KB-KC-KD.....	.70	.91
	.84	1.05

These prices apply only to the United States

All roads lead to sales of the G-E Novalux HANDY Floodlight



The G-E Handy floodlight goes to market

ANSWERING some special need of everyone—priced within everyone's reach—the Handy, selling at \$8.40, lends itself obviously and profitably to every form of sales promotion.

For the city market, it's an ideal headliner in newspaper and mail advertising. The mere mention that it's a General Electric enclosed floodlight; that it weighs only two pounds 14 ounces; that it can be connected anywhere, to any wiring system; that its strong, efficient light is projected from a standard 100-watt MAZDA lamp, will remind everyone of just how he can

use such a unit. *And then there's the price!*

Of course, this advertising should be backed up by window and store display of the handsome green-enameled units and the cartons in which they are delivered—and by an offer of a free demonstration to interested inquirers.

For the big suburban and rural market, including roadside business of every kind, there can

be no better sales road than the highway—with a truckload of cartons—a Handy ready for connection—a quick demonstration to farmer, business man, or garage owner. Never was such an efficient floodlight at so low a price!

The Handy may be obtained from:
The General Electric Supply Corporation
Other G-E Merchandise Distributors
Any G-E Sales Office
Further information is available from any of these sources.

JOIN US IN THE GENERAL ELECTRIC PROGRAM, BROADCAST EVERY SATURDAY EVENING ON A NATION-WIDE N.B.C. NETWORK

GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

710-126

ARROW 2-CIRCUIT

CONVENIENCE OUTLETS

*for the
show
part
of your
wiring
jobs*

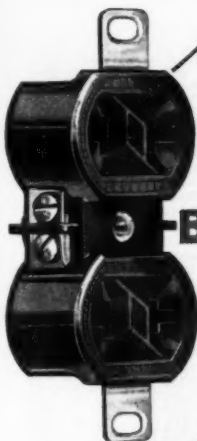


TWO circuits provide for a single control of all the lamps in a living room. At the same time provide an open circuit for plugging-in various appliances.

A switch may control ONE circuit in ALL receptacles. So all the plugged-in lamps in a room go "ON" or "OFF" at a touch. Saves all the nuisance of plugging-in one lamp after another and turning off one at a time.

Separate fuses are used for each of the circuits . . . 15 Amperes to the circuit. Allows TWO heavy loads from each receptacle; prevents blowing of fuses.

These features make the 2-circuit outlet the real CONVENIENCE outlet for modern residences . . . Install them with ARROW Bakelite Plates to add distinctive beauty to your jobs.



**ALL
-BAKELITE**

Cat. No.
1915

NEW NUMBERS : :

No. 1915 has two feeds and two returns. No. 1914 has two feeds and one return. Jaws grip either tandem or parallel-blade plugs. Finding Grooves save fuss and bother of groping around with attachment plugs to find slots in receptacle. Entire unit is moisture-proof; no absorption to cause trouble on concrete jobs or in damp places. All Lustrous BAKELITE—back, body and face.



ARROW ELECTRIC DIVISION

THE ARROW - HART & HEGEMAN ELECTRIC CO.
HARTFORD, CONN.

Fittings, Conduit

Lamp Receptacle	S. H. Groove.....	\$.63
	No S. H. Groove.....	.66
Plug Receptacle	10 & 15 Amp.....	.70
"	20 ".....	.91
"	10 " 3-wire.....	.98
Cord Rosette.....		.49
Blank Cast Cover.....		.42

Prices include Globe & Guard

			Form 75		
			1 st	3 rd	1 st
V-VA & VDA as above	.....		\$5.85	\$5.92	\$6.00
VC & VL	01 01		5.98	6.11	6.24
VE-VG & VT	01 01		6.17	6.30	6.56
VX	01 01		6.80	6.83	6.76
VY	01 01		6.37	6.30	
VD & VJ	01 01		6.70	6.87	7.00
			Form 200		
			1 st	3 rd	1 st
V-VA & VDA as above	.....		\$7.02	\$7.09	\$7.16
VC & VL	01 01		7.15	7.28	7.35
VE-VG & VT	01 01		7.28	7.50	7.63
VX	01 01		7.41	7.67	7.87
VY	01 01		7.47	7.40	
VD & VJ	01 01		7.67	7.80	7.93

	Form	Price	Form	Price
Globes only, clear glass.....		\$1.12		\$1.12
“ “ opal.....		1.54		2.38
“ “ green, high grade.....		2.30		3.30
“ “ ruby.....		1.34		4.06
Guards Cast Aluminum.....		2.52		3.15
Half Shades.....		1.68		2.45
Receptacle with Gasket.....		.56		.56
Reflector Holders Cast Aluminum.....		.71		.91
Adaptor.....		1.05		1.26

Adapti Bulletin 107E Page 19B

Pendant or Bracket Fixture with Recep. Globe and Guard Form	75....	\$7.93
" " " " " " " " " "	200....	8.84

"Kondu" "Adaptilets" "Appleton" Crouse-Hinds or Similar

		Size—	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"	4"
A	Covers Extra		\$0.46	\$0.62	\$0.84	\$1.02	\$1.20	\$3.70	\$5.85	\$10.55	\$16.00	\$18.45
B	"	"	.53	.70	.95	1.20	1.50	5.00	8.85	11.50	15.40	23.45
C	"	"	.74	.94	1.33	1.55	2.00	6.25	12.90	16.05	22.40	27.65
E	"	"	.95	1.16	1.56	1.80	2.30	7.30	13.40	17.10	23.40	28.40
F	"	"	.53	.67	.94	1.15	2.45	4.40	10.55	14.00	18.40	22.40
LB-LL-LR			.81	.98	1.40	2.75	3.90	6.30	13.15	16.45	24.40	29.00
LBI-LBR			1.25	1.65	2.30	.....	.....	.....	.....	.....	.....	.....
T&TB All 1 Size			1.05	1.35	1.85	3.60	5.35	7.80	16.45	21.75	30.30	36.90
TA	"	1"	1.45	1.80	2.40	.....	.....	.....	.....	.....	.....	.....
U	"	"	1.05	1.35	2.30	.....	.....	.....	.....	.....	.....	.....
U-U	"	"	.90	1.10	1.60	3.00	3.35	7.00	.....	.....	.....	.....
X	All One Size		1.35	1.80	2.45	4.50	6.45	10.50	.....	.....	.....	.....

Unions Thick Walls	\$0.40	\$0.55	\$0.85	\$1.25	\$1.75	\$3.50	\$5.25	\$7.90	\$10.55	\$15.80
" Thin "	.30	.45	.70	1.10	1.45	2.95
Conn. Thick "	.30	.40	.80	1.00
" Thin "	.25	.35	.65
UCT Adapter	.10	.15	.20

Type	1/4"	One Gang 3/4"	1"	Two Gang 1 1/2"	3"	Three Gang 3 1/2"	Four Gang 3 3/4"
FS	\$1.05	\$1.25	\$1.50	\$2.05	\$2.75	\$3.30
FSA	1.05
FSC	1.30	1.60	\$2.05	2.10	2.30	3.10	3.70
FSD
FSL-FSR	1.30	1.60	2.40	2.75
FSLA	1.30
FSCT	1.75	2.30	2.75
FSX	2.15	3.00	3.45

		With Adjustable Bar		Without Bar	
G	Form 5	$\frac{1}{2}$	\$1.00	$\frac{1}{2}$	\$0.80
		$\frac{1}{2}$	1.25	$\frac{1}{2}$	1.05
	Form 10	$\frac{1}{2}$	1.15	$\frac{1}{2}$.95
		$\frac{1}{2}$	1.50	$\frac{1}{2}$	1.25
GL	Form 5	$\frac{1}{2}$	1.10	$\frac{1}{2}$.90
	Form 10	$\frac{1}{2}$	1.25	$\frac{1}{2}$	1.00
GT	Form 5	$\frac{1}{2}$	1.45	$\frac{1}{2}$	1.20
		$\frac{1}{2}$	1.75	$\frac{1}{2}$	1.50
		$\frac{1}{2}$		$\frac{1}{2}$	
H	Form 5	$\frac{1}{2}$.75	$\frac{1}{2}$.55
		$\frac{1}{2}$.95	$\frac{1}{2}$.75
	Form 10	$\frac{1}{2}$.90	$\frac{1}{2}$.70

J	16"	\$1.10
	24"	1.40
K	16"	.85

Note.—Threadless Fittings for Rigid Conduit and Metallic Tubing (Thin Wall) are the same price.

Covers, Gaskets and Wiring Devices same price as Threaded, on page PL-11 and 12.

Fittings for Thin Wall Conduit are Only Made Up to and Including 2".

Large End	3 1/2"	1"	1 1/2"	1 3/4"	2"
Small End	1 1/2"...	\$.40	\$.55	\$.70	\$1.05
"	" 1 1/2"...60	.75	1.20
"	" 1 1/2"...80	.95
"	" 1 1/2"...	1.30
"	" 1 1/2"...	1.15
"	" 1 1/2"...	1.45
"	" 1 1/2"...	1.60

BRANCH TYPE
Series 48

Description	G.E., Steel City or T & B Numbers	Price Each
Branch Box Rectangular for $\frac{1}{2}$ & $\frac{3}{4}$ " Conduit....	SP-48241	\$.25
Cover Metal Flat Closed.....	SP-48C1	10
" " " with $\frac{1}{2}$ " Knockout.....	SP-48C6	10
" " " Pendant Type with $\frac{1}{2}$ " Bushing.....	SP-48C8	12
" " " Pendant Type with $\frac{3}{4}$ " Bushing.....	SP-48C11	18
" " " with $\frac{1}{2}$ " Male or Female Nipple.....	SP-48C24 & 25	40
" " " with $\frac{3}{4}$ " Male or Female Nipple.....	SP-48C24 & 25	40
Cover Porcelain with one or two wire Holes.....	SP-48C75 & 76	14
" " " three or four wire Holes.....	SP-48C77 & 78	15

Description	G.E., Steel City or T & B Numbers	Price Each
Body Octagonal Shape for $\frac{1}{8}$ " or $\frac{3}{16}$ " Conduit.....	SP-14241	.95
Cover Metal Flat Closed.....	SP-14C1	.10
" Raised with $\frac{1}{8}$ " Knockout.....	SP-14C7	.10
Cover Metal Flat Pendant with $\frac{1}{8}$ " Bushing.....	SP-14C8	.12
" " " " " "	SP-14C11	.16
" " " with $\frac{1}{8}$ or $\frac{3}{16}$ Male Nip.....	SP-14C22-24	.30
" " " For all surface Mounted Devices.....	SP-14C28	.12
" Raised for Sign Rectangles.....	SP-C23 34-35-36	.12
" Flat for all Listed Devices.....	SP-14C30	.35
" Porcelain with one or two holes.....	SP-14C75 & 76	.15
" " Three or Four holes.....	SP-14C77 & 78	.15

Description	G. E., Steel City or T & B Numbers	Price Each
Body Deep Octagonal Shape $\frac{3}{4}$ " & $\frac{3}{8}$ "	SP-24461	\$.65
Cover Metal Blank Flat	SP-2441	"
Cover Metal Flat Push Button Switch	SP-2442 & 3	"
Single Receptacle	SP-2445	"
Standard Duplex Receptacle	SP-2447	"
For GE 30 Amp. Polarized Plug Recep.	SP-24413	"
GE Tumbler Switches	SP-24414	"
Hubb' Lang H&H Tumbler Switches	SP-24416	"

SP-1410 Complete Coupling for 1/2" Conduit.....	Price \$.18
SP-1420 " " " "25

"ADAPTI"

Ent. Ells with Cov. Ser. 1100.....	1½"	1½"	1"	1½"
" Fitt. with Cov. Ser. 2700.....	\$4.45	\$5.50	\$6.00	\$1.05
Angle Ent. Fitt. with Cover Ser. 2700...	.45	.55	.65	1.10
Signal Ent. Caps No. 2810-2811.....	.50	.55	.65	1.20
	.75	.80		
	1½"	2"	2½"	3"
Ent. Ells with Cov. Ser. 1100.....	\$1.55	\$3.00		
" Fitt. with Cov. Ser. 2700.....	1.85	3.00		.65
Angle Ent. Fitt. with Cov. Ser. 2700.....	1.85	3.00	6.30	7.25
Signal Ent. Caps No. 2810-2811.....				

These prices apply only to the United States

Electrical Contracting, July, 1931

FITTINGS, ENTRANCE OR SERVICE—Continued

"APPLETON"

	1/4"	1/2"	1"	1 1/4"
FEB Elbow with Cov. 1700 & 1900.....	\$.50	\$.60	\$.70	\$1.70
FB Elbow with Cov. 1713 to 16.....	.35	.50	.60	.....
FC End Fitt. with Cov. 1723-33-43.....	.20	.25	.30	.....
AY Angle Fitt. 1950 to 54.....	.50	.55	.70	1.85
LAY End Fitt. with Cov. 1790 to 94.....	.45	.50	.60	1.10
MF Reversible Fitt. 3200-3230.....	.45	.55	.75	1.30

	1 1/4"	2"	2 1/2"	3"
FEB Elbow with Cov. 1700 & 1900.....	\$1.00	\$3.25	\$7.50	\$9.00
FB Elbow with Cov. 1713 to 16.....	.....	.....	.....	.....
FC End Fitt. with Cov. 1723-33-43.....	.....	.....	.....	.....
AY Angle Fitt. 1950 to 54.....	2.25	.....	.....	.....
LAY End Fitt. with Cov. 1790 to 94.....	1.75	.....	.....	.....

"BEND HICKS"

	1/4"	1/2"	1"	1 1/4"
Bend Hicks Galvanized.....	\$.50	\$.60	\$.65	\$1.75
	1 1/4"	2"	2 1/2"	3"
Bend Hicks Galvanized.....	\$2.15	\$4.10	\$8.00	\$8.25

"CAP-SWIVEL-LET"

	1/4"	1/2"	1"	1 1/4"	2"
"A" Inside Work #1010 to 1064.....	\$0.20	\$0.25	\$0.30	\$0.55	\$0.85
"BW" Threadless Fitt. 4112-4134.....	.45	.50	.75	.....	.....
"BW" Threaded Fitt. 2112-2124.....	.35	.45	.....	.....	.....
"FW" Outside Work 1412-1464.....	.40	.50	.65	1.05	1.80
"LB" Service Entrance 3110-3130.....	.50	.55	.65	.....	.....
Type "AM" for Nipple 1/4" Long.....	\$0.20	For Nipple 1 1/4" Long.....	\$0.25	.....	.....
Type "BXA" from 1600 to 1613.....	.20	From 1614-1624.....	.30	.....	.....
From 1632-1634.....	.35	.....	.....	.....	.....

"CONDULETS"—Form 6

	1/4"	1/2"	1"	1 1/4"
F Type Ent. Fitt. with Porc. Cov.....	\$.40	\$.45	\$.60	\$.95
LB Type Ent. Fitt. with Metal Cov.....	.45	.50	.60	1.15
	1 1/4"	2"	2 1/2"	3"
F Type Ent. Fitt. with Porc. Cov.....	\$1.60	\$2.85	.....	.....
LB Type Ent. Fitt. with Metal Cov.....	1.40	2.45	.....	.....

"ELECTROLETS"

	1/4"	1/2"	1"	1 1/4"
FB Angle Fitt. with Cov. 713-83.....	\$.45	\$.55	\$.70	\$1.10
KA End Fitt. with Cov. 1013 to 43.....	.20	.25	.35	.....
SLB Elbow Fitt. with Cov. 1 to 4.....	.50	.55	.60	1.00
Y Capped Elbow Y1 to 5.....	.50	.55	.65	1.75
	1 1/4"	2"	2 1/2"	3"
FB Angle Fitt. with Cov. 713-83.....	\$1.85	\$3.00	\$6.00	\$8.50
KA End Fitt. with Cov. 1013 to 43.....	.....	.....	.....	.....
SLB Elbow Fitt. with Cov. 1 to 4.....	.....	.....	.....	.....
Y Capped Elbow Y1 to 5.....	2.20	.....	.....	.....

"GENERAL ELECTRIC"

	1/4"	1/2"	1"	1 1/4"
With Covers				
Ent. Caps Series 1525 to 1534.....	\$.45	\$.55	\$.70	\$.95
Capped Elbow Series 1470 to 1472.....	.45	.50	.60	.....
Capped Elbow Series 1480 to 1484.....	.50	.55	.70	1.85
Insulators Series 1610 to 1612.....	.20	.25	.30	.....
Insulators Angle Series 1640 to 1642.....	.30	.40	.50	.....
Entrance Ells 1490 to 1495.....	.60	.45	.55	1.00
	1 1/4"	2"	2 1/2"	3"
Ent. Caps Series 1525 to 1532.....	\$1.60	\$2.75	\$8.90	\$10.90
Capped Elbow Series 1470 to 1472.....	.....	.....	.....	.....
Capped Elbow Series 1480 to 1484.....	2.25	.....	.....	.....
Insulators Series 1610 to 1612.....	.....	.....	.....	.....
Insulators Angle Series 1640 to 1642.....	.....	.....	.....	.....
Entrance Ells 1490 to 1495.....	1.85	3.00	8.35	10.50

GEE-VEE

	1/4"	1/2"	1"	1 1/4"
F Service Cap Series 6000.....	\$.45	\$.50	\$.70	\$1.00
B " " " 16000.....	.45	.50	.70	1.75
F Pipe " " " 1000-1310.....	.40	.50	.75	.85
B " " " 2000 & 2100.....	.40	.45	.65	.75
FB Universal " 3000.....	1.00	1.25	1.65	2.75
Weathercap " 40122.....	.30	.30	.....	.....
Service Elbow " 19000.....	.45	.50	.60	1.10
Endo Terminal Series 90000.....	.15	.20	.28	1.05
Endo with Male Thread Series 70000.....	.25	.35	.50	.....
Endo for Armored Cable 31143.....	.....	.....	.....	.....
No. 14-2 or No. 12-3 Wire.....	.20	.....	.....	.....
Endo for Armored Cable	.....	.....	.....	.....
Series 30000. Nos. 14 and 12 wire, \$1.15; No. 10 wire, \$1.30; No. 6 wire, \$1.45	.....	.....	.....	.....
SEG Service Elbow Series. 400-1/4x1/2, \$1.70; 1/2x1/2, \$1.15; 1/2x1/4x1/2, \$1.75	.....	.....	.....	.....
	1 1/4"	2"	2 1/2"	3"
F Service Cap Series 6000.....	\$1.90	\$3.35	\$7.60	\$9.25
B " " " 16000.....	1.90	3.35	7.60	9.25
F Pipe " " " 1000-1310.....	1.20	1.75	3.00	4.15
B " " " 2000 & 2100.....	1.05	.....	.....	.....
FB Universal " 3000.....	3.75	5.40	9.50	12.70
Weathercap " 40122.....	.....	.....	.....	.....
Service Elbow " 19000.....	2.75	3.00	.....	.....
Endo Terminal " 90000.....	1.40	2.40	4.55	7.40

"TAPLETS"

	1/4"	1/2"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
AR End Fitt. with Bushing.....	\$.40	\$.55	\$.70	\$.90	\$1.30	\$1.70	\$2.30	\$5.00
BF Angle Fitt. with Covers.....	.35	.55	.65	1.20	.....	.....	.....	.....
FA End Fitt. with Covers.....	.15	.20	.....	.....	.....	.....	.....	.....
FB End Fitt. with Covers.....	.30	.45	.....	.....	.....	.....	.....	.....
FF Service Fitt. with Covers.....	.40	.45	.65	1.00	1.70	2.95	6.25	7.65
FH Service Fitt. with Covers.....	.85	1.05	1.50	1.90	3.05	4.90	11.50	12.65
SE Service Elbow with Covers.....	.95	1.10	1.25	1.90	2.50	4.20	8.45	9.80

T & B

	1/4"	1/2"	1"	1 1/4"
Ent. Cap 1525-32 with Cover.....	\$.40	\$.50	\$.65	\$1.00
Capped Elbow 1470-84 with Cover.....	.50	.60	.70	1.95
Insulators 1610-11-12 with Cover.....	.15	.20	.25	.....
Angle Insulators 1640-1-2 with Cover.....	.30	.45	.60	.....
Cable Insulators 2000 with Cover.....	.15	.....	.....	.....

	1 1/4"	2"	2 1/2"	3"
Ent. Cap 1525-32 with Cover.....	\$1.70	\$2.95	\$7.55	\$9.25
Capped Elbow 1470-84 with Cover.....	2.30	.....	.....	.....
Insulators 1610-11-12 with Cover.....	.....	.....	.....	.....
Angle Insulators 1640-1-2 with Cover.....	.....	.....	.....	.....
Cable Insulators 2000 with Cover.....	.....	.....	.....	.....

"V. V."

	1/4"	1/2"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
Type 2 Term. Fitt. with Cov.....	\$.60	\$.80	\$1.05	\$1.65	\$2.15	\$3.85	.....	.....
Type 6 Term. Fitt. with Bush.....	.40	.55	.70	.90	1.30	1.70	2.30	5.60
Type 9 Term. Fitt. with Cov.....	.70	1.05	1.40	2.80	4.20	7.00	12.65	15.45
F with Porc. Cover.....	.40	.45	.60	.95	1.60	2.75	6.95	8.55
FAB with Porc. Cover.....	.25	.40	.45	.85	1.15	2.35	3.80	5.35
FC Pipe End Porc. Cover.....	.15	.20	.25	.....	.....	.....	.....	.....
FCBX with Cover.....	.15	.....	.....	.....	.....	.....	.....	.....
FL with Cast Cover.....	.40	.55	.65	1.15	1.35	2.45	.....	.....
Y Bend Hick.....	.50	.60	.65	1.75	2.15	4.10	.....	.....

FITTINGS, "ADAPTI"

ROUND "ADAPTI" BOXES

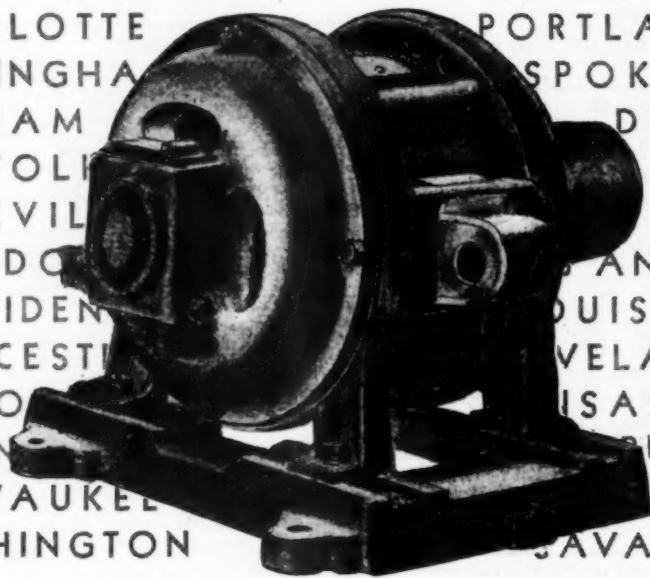
Series Numbers	Style	1/4"	1/2"	1"	1 1/4"	1 1/2"	2"
No. 2900 to 2903.. 1	Back Outlet	\$.40	\$.46	\$.60	\$1.05	\$1.80	\$2.40
No. 3100 to 3105.. "	Side "	.40	.46	.60	1.05	1.80	2.40
No. 3100T & 3101T							
Threadless	" " "	.48	.55	.....	.....	.....	.....
No. 3170 to 3175.. "	" " "	.46	.53	.66	1.15	1.85	2.40
No. 3200 to 3205.. 2	" " "	.48	.55	.73	1.25	2.11	2.75
No. 3200T & 3201T							
Threadless	" " "	.60	.67	.....	.....	.....	.....
No. 3270 to 3275.. "	" " "	.67	.73	1.40	2.25	2.85	.....
No. 32170 to 32175 "	" " "	.53	.60	.85	1.34	2.20	2.80
No. 3300 to 3305.. 3	" " "	.64	.75	.98	1.60	2.65	3.00
No. 3300T to 3305T							
Threadless	" " "	.80	.92	.....	.....	.....	.....
No. 33170 to 33175 "	" " "	.70	.82	1.05	1.70	2.70	3.05
No. 3400 to 3405.. 4	" " "	.80	1.00	1.20	1.85	2.85	3.30
No. 3500 to 3705.. 2	" " "	.73	.80	.80	1.40	2.25	3.30
No. 3800 to 3805.. "	" " "	.53	.60	.80	1.40	2.25	3.30
No. 3900 to 4105.. 3	" " "	.80	.93	1.05	1.75	2.85	3.95
No. 4800 to 5005.. 4	" " "	.93	1.05	1.32	1.90	3.50	4.65

PARTS For Above Boxes

Series No.	Description	1/4"	1/2"	1"
500-501-502	Base Only	\$.27	\$.27	\$.54
500X-501X	Extension Ring	.27	.27	.40
501A	Base Concealed to Expd.	.66	.66	.66
5000	" with Tapped Boss	.33	.33	.....
510 to 512	Base	.40	.40	.80
520 to 522	"	.27	.27	.52
30 to 35	Metal Side Plates	.14	.14	.23
40 to 42	Insulated Side Plates	.16	.16	.23
50 to 54	Arm. Flex. Side Plates	.33	.40	.53
60 to 65	Angle Outlet	.16	.22	.42
70 to 75	Elbow Outlet	.22	.29	.50
90 to 93	Connecting Outlet	.26	.....	.33
100 & 101	Straight for No. 500 Base	.16	.22	.....
110 to 113	" " No. 501 "	.26	.33	.42
120 to 125	" " No. 502 "	.45	.53	.66
130 to 135	" " No. 503 "	1.05	1.32	1.60
140 to 145	" " No. 504 "	2.65	3.05	3.45
300 & 301	Threadless Outlet	.20	.25	.....
310 & 311	"	.33	.40	.....
Series No.	Description	1 1/4"	1 1/2"	2"
500-501-502	Base Only	\$.54	\$1.08	\$1.08
500X-501X	Extension Ring	.40	.....	.....
501A	Base Concealed to Expd.	.66	.....	.....
5000	" with Tapped Boss	.....	.....	.....
510 to 512	Base	.80	1.60	1.60
520 to 522	"	.52	1.08	1.08
30 to 35	Metal Side Plates	.20	.38	.38
40 to 42	Insulated Side Plates	.33	.66	.66
50 to 54	Arm. Flex. Side Plates	.66	.....	.....
60 to 65	Angle Outlet	.45	.92	1.05
70 to 75	Elbow Outlet	.55	1.00	1.12
90 to 93	Connecting Outlet	.....	.40	.46
100 & 101	Straight for No. 500 Base	.....	.....	.....
110 to 113	" " No. 501 "	.48	.....	.....
120 to 125	" " No. 502 "	.80	.92	1.05
130 to 135	" " No. 503 "	1.85	2.10	2.40
140 to 145	" " No. 504 "	3.55	4.25	4.65
300 & 301	Threadless Outlet	.....	.....	.....
310 & 311	"	.....	.....	.....

These prices apply only to the United States

SAN ANTONIO NASHVILLE FORT WAYNE READING
 CHICAGO INDIANAPOLIS HARTFORD COLUMBUS
 ROCHESTER PITTSBURGH NEW ORLEANS NEWARK
 MINNEAPOLIS TACOMA JACKSONVILLE YOUNGSTOWN
 PHILADELPHIA HARRISBURG ATLANTA BROOKLYN
 NEW YORK NEW HAVEN ALBANY SAN FRANCISCO
 GRAND RAPIDS SALT LAKE CITY OKLAHOMA CITY
 SYRACUSE MT. VERNON RICHMOND HAMMOND
 CINCINNATI SEATTLE DALLAS TAMPA OMAHA
 KNOXVILLE MIAMI DAVENPORT FORT WORTH
 CHARLOTTE PORTLAND BEAUMONT
 BIRMINGHAM SPOKANE OAKLAND
 DURHAM DETROIT DULUTH
 NORFOLK FLINT ST. PAUL
 ASHEVILLE AKRON PEORIA
 TOLEDO ANGELES ST. LOUIS
 PROVIDENCE LOUISVILLE WICHITA
 WORCESTER CLEVELAND BALTIMORE
 BOSTON KANSAS CITY TRENTON
 ROANOK BUFFALO DENVER
 MILWAUKEE MEMPHIS DAYTON
 WASHINGTON SAVANNAH HOUSTON

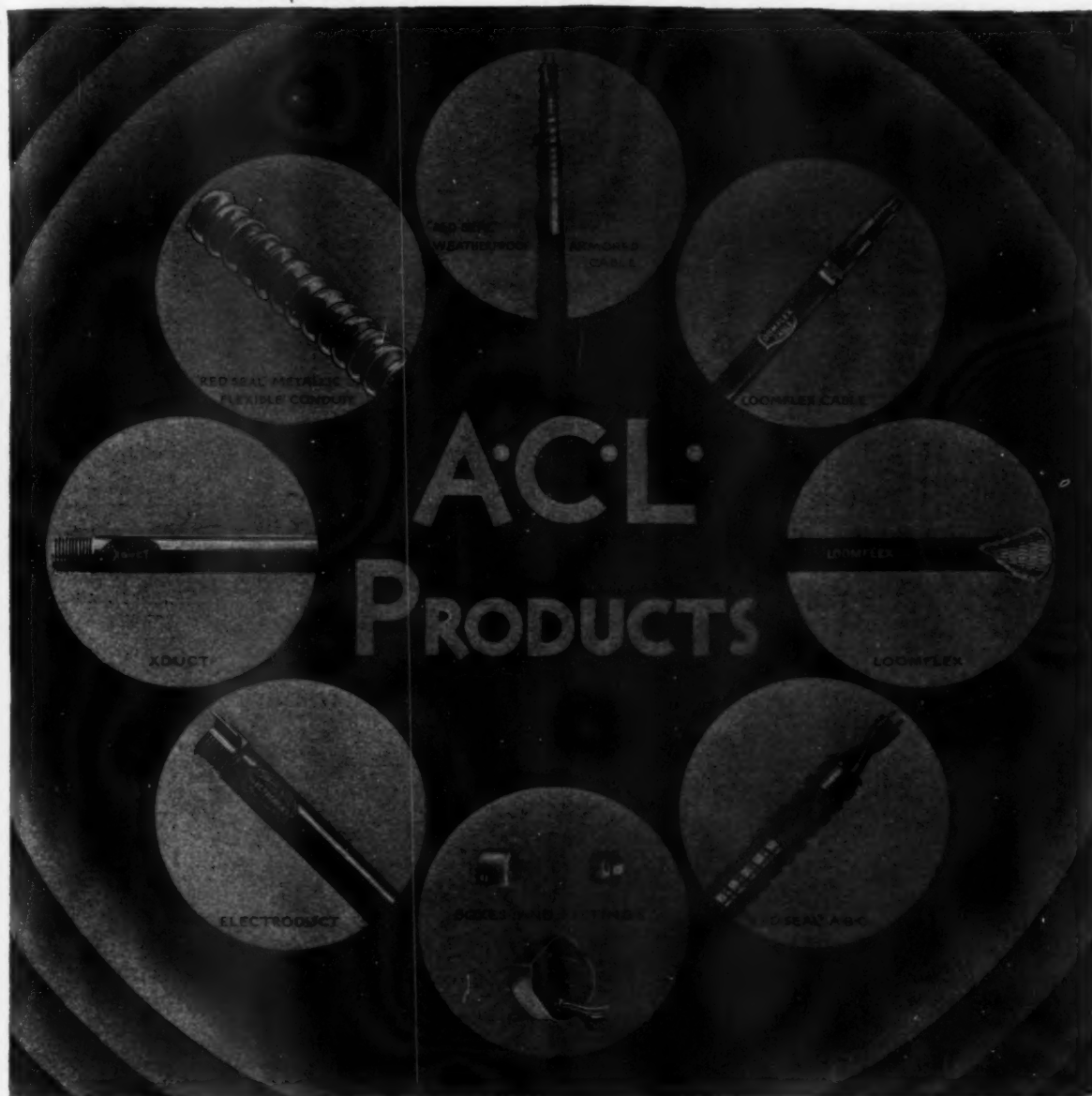


76 places to find a motor

... From Boston to Los Angeles, 76 Graybar distributing houses serve motor buyers everywhere with an ample stock of standard motors. Which means ... a well-stocked warehouse right in your own vicinity ... a long experience in anticipating your needs ... and the services of Graybar motor specialists to aid you with the difficult problems of motor selection. And not only motors ... you'll find your nearby Graybar warehouse stocked, too, with 60,000 other electrical items.

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OFFICES IN 76 PRINCIPAL CITIES. EXECUTIVE OFFICES: GRAYBAR BUILDING, NEW YORK, N. Y.



They Go Into A Job Without Grief—AND STAY THERE

Good electrical work—the goal of all electrical contractors—is only possible thru the use of wiring materials of superior quality and utmost dependability—materials that go into a job without grief—and stay there. A. C. L. products do just that; they satisfy the man who does the work, and the man who pays for it. A. C. L. "Better Wiring Materials" are safe, quick working and economical in use.

Go after the "rewiring market"—wire adequately—and make 1931 your most profitable year. Leading jobbers sell A. C. L. Products: Xduct, Electroduct, "Red Seal" ABC Armored Bushed Cable (Licensee Patent No. 1687013), "Red Seal" Weather-proof Armored Cable and Flexible Conduit, "Red Seal" Metallic Flexible Conduit, "Loomflex" non-metallic flexible conduit, "Loomflex Cable" non-metallic sheathed (Licensee Patent Nos. 1635829—1203788—1439323—1520680), and a complete line of Boxes and Fittings.



AMERICAN CIRCULAR LOOM COMPANY, Inc.

233 BROADWAY, NEW YORK

Offices in the Principal Cities throughout the U. S. A.

PL-16
Molding

OVALDUCT FITTINGS		
No.	Description	Price Each
24-CQ	Extension box cover for 4" outlet boxes.....	\$.45
401	Box Connector with 1/2" Boudnax.....	.25
2133	Squeeze Type Coupling 1 1/4" long.....	.15
2134	90 Degree Internal Elbow.....	.35
2135	45 " Flat.....	.26
2136	One piece 90 degree elbow.....	.50
2156	90 " Box Connector.....	.30
2159	Wire Toggle Fastener.....	.03
2181	Strap Fastener.....	.02
2181	Connector Ovalduct to Oval Knockout.....	.20
2662	Outlet Box 4 x 3 1/2.....	.20
2663	Extension Ring for Boxes.....	.20
2665	Outlet Box 4 x 3 1/2 with Fixture Stud.....	.28
2862	" " 3 1/4 x 3 1/4.....	.20
2865	" " 3 1/4 x 3 1/4 with Fixture Stud.....	.26
4170-S1	Sectional Switch Box 4 x 1 1/2 x 1.....	.35
4172-S1	Spacer for above box.....	.30

MOLDING, WIREMOLD

MOLDING	
No. 500 2-Wire, price per ft.....	\$.10
" 700 4-Wire, " " ".....	.12
" 1000 Master Size, " " ".....	.23

FITTINGS FOR No. 500			FITTINGS FOR No. 700		
2 Wire			4 Wire—Continued		
Number	Description	Price	Number	Description	Price
502	Bushing.....	\$0.04	5739	6 3/4" Fixture Box.....	\$0.95
504	Supporting Strap.....	.04	5739A	6 3/4" Extension.....	.95
506	Connecting Cover.....	.04	5744	Single Deep Box.....	.85
511-12	45 & 90 Deg. Elbow.....	.22	5744-2	2 Gang.....	1.20
515	Tee Plain.....	.36	5745	Combination.....	.70
516	Cross Plain.....	.38	5747	Single Shallow Box.....	.75
517	Internal Elbow.....	.24	5747-2	2 Gang.....	1.05
518	External.....	.22	5747-3	3 ".....	1.15
519	Corner Box.....	.38	5748	Single Surface.....	.85
521	1 Piece Rosette.....	.36	5748-2	2 Gang.....	1.15
523	3/4" Fixture Rosette.....	.75	5748-3	3 ".....	1.20
524	3/4".....	.70	5748S	Shallow Rec.....	.65
525	Receptacle Base.....	.80	5749	Switch & Recep.....	1.00
526	Keyless Receptacle.....	.95	5750	Push Switch Box.....	1.05
527	Attachment Plug.....	1.00	5751	Single Adp. Plate.....	.75
532-23	2 1/2 x 3" Outlet Box.....	.45	5752	2 Gang.....	1.25
588	Operwork Coupling.....	.36	5753	3 ".....	1.30
590	Moulding Connector.....	.08	5760	Blank Extension Box.....	.95

FITTINGS FOR No. 700			FITTINGS FOR No. 1000		
4 Wire			MASTER SIZE		
Number	Description	Price	Number	Description	Price
5701	Coupling.....	\$0.04	1001	Coupling.....	\$0.06
5702	Bushing.....	.04	1002	Bushing.....	.04
5703	Clip.....	.06	1003	Clip.....	.06
5704	1 & 2 Hole Strap.....	.06	1005	One Hole Strap.....	.08
5706	Connection Cover.....	.04	1008A	Hanger Assembly.....	.90
5707	Multiple Strap.....	.10	1008A	Hanger Clamp.....	.18
5708	Fixture Hook.....	.22	1009	Ground.....	.20
5709	Ground Clamp.....	.12	1011	90 Deg. Flat Elbow.....	.40
5711-12	Elbows 45 & 90 Deg.....	.22	1013	Adj. Elbow.....	.40
5715	Tee.....	.36	1017	Internal Elbow.....	.40
5717A	Elbow Pull Box.....	.50	1018	External.....	.35
5718	External Elbow.....	.22	1020	Keyless Receptacle.....	.90
5719	Corner Box.....	.45	1020A	Angle.....	1.40
5720	Narrow Fitting.....	.55	1020B	Blank or Outlet Box.....	.50
5720A	Show Case Outlet.....	.45	1028	Utility Box.....	.70
5721	1 Piece Rosette.....	.35	1035	Distribution Box.....	1.10
5724	Comb.....	.70	1039	6 3/4" Fixture.....	.90
5725	Receptacle Base.....	.80	1048	Switch & Recep Box.....	1.00
5726	Keyless Receptacle.....	.95	1082	Pipe Coupling.....	.60
5727	Plug Receptacle.....	1.00	1085	Comb. Connector.....	.35
5728	Utility Box.....	.40	1086	Offset Connector.....	.70
5729	" Cond. Type.....	.40	1087	Kick Plate.....	.32
5730	Contact Block.....	.26	1089	Reducing Connector.....	.15
5731	Blank Cover.....	.15	1090F	Flex. Fitting 18".....	1.75
5732-3	2 1/2 x 3" Outlet Box.....	.45			
5734	Closed Extension.....	.65			
5735	Distribution Box.....	.75			
5736	Blank Cover.....	.16			
5737	4 1/4" Extension Box.....	.65			
5738	4 1/4" Fixture Box.....	.65			
5738D	Diple Thru Hook Conn. 1.30				
5738E	Stamped Hook.....	.65			
	Canopy.....	.65			

LEWIS METER AND SWITCH CABINETS									
CLASS A					MAIN FUSE ACCESSIBLE				
Amp	Volts	Wire	Fuse	Neutral	Numbers		Price		
30	125-250	3	2	Solid.....	M7311	-ML7311	.....	\$12.30
30	125-250	3	2	".....	M7311M	-ML7311M	.....	12.80
30	125	2	1	".....	M7211	-ML7211	.....	12.20
30	125	2	1	".....	M7211M	-ML7211M	.....	12.30
30	125	2	2	Fused.....	M7211D	-ML7211D	.....	12.95
60	125-250	3	2	Solid.....	M7312	-ML7312	.....	19.75
60	125-250	3	2	".....	M7312M	-ML7312M	.....	19.05
60	125	2	1	".....	M7212	-ML7212	.....	19.30
60	125	2	2	Fused.....	M7212M	-ML7212M	.....	19.05
60	125	3	2	Fused.....	M7212D	-ML7212D	.....	19.30
CLASS B					SEALED MAIN FUSES				
30	125	2	1	Solid.....	M5211	or ML5211	.....	\$12.30
30	125-250	3	2	".....	M5311	" ML5311	.....	12.80
30	125	2	2	Fused.....	M 211	" ML 211	.....	12.20
30	125-250	3	2	Unfused.....	M 311	" ML 311	.....	12.30
30	250	2	2	Fused.....	M 221	" ML 221	.....	12.95
60	250	2	2	".....	M 222	" ML 222	.....	15.30
30	125-250	3	2	Unfused.....	M 321	" ML 321	.....	12.70
30	125-250	3	2	Solid.....	M 321SN	or ML 321SN	.....	12.70
60	125-250	3	2	".....	M 322	or ML 322	.....	15.30

"METER TEST TYPE" CABINETS

30 Amp.....	Cat. No. M303 or ML303.....	\$9.25
60 Amp.....	Cat. No. M602 or ML602.....	7.30

These prices apply only to the United States

Plugs, Appliance

N-SUNDRIES

PIPE NIPPLES	
Close Nipples—Galv.	
Size Conduit	1 1/2" 1 3/4" 2" 2 1/2" 3"
Cond. Cond. Cond. Cond. Cond. Cond.	\$0.07 \$0.08 \$0.12 \$0.16 \$0.20 \$0.24
Standard Short Nipples—Black or Galv.	
2" to 3 1/2" Long.....	\$0.10
2" " 4" ".....	\$0.12 \$0.15
2 1/2" " 4 1/2" ".....	\$0.21 \$0.21
3" " 4 1/2" ".....	\$0.35
3 1/2" " 5 1/2" ".....	\$0.70
3 1/2" " 5 1/2" ".....	\$0.85
Long Nipples—Black or Galv.	
4" Long.....	\$0.10
5" ".....	\$0.14 \$0.20 \$0.24 \$0.30 \$0.38
6" ".....	.15 .17 .22 .28 .34 .40 \$0.80 \$1.00
7" ".....	.18 .21 .27 .34 .40 .55 1.05 1.25
8" ".....	.21 .23 .30 .37 .45 .60 1.12 1.40
10" ".....	.22 .25 .33 .40 .50 .67 1.22 1.55
11" ".....	.24 .27 .37 .40 .56 .75 1.35 1.65
12" ".....	.30 .35 .45 .58 .70 .95 1.45 1.80
	.38 .48 .61 .75 1.00 1.55 1.95

CHASE NIPPLES & COUPLINGS

Size	1/2" 3/4" 1" 1 1/4" 1 1/2" 2" 2 1/2" 3"
Chase Nipples..... each	\$.10 \$.10 \$.14 \$.25 \$.28 \$.32 \$.50 \$1.10
Couplings.....	12 12 12 14

For Erickson Couplings, see Page PL-8.

CHASE MALE REDUCERS

CHASE FEMALE ENLARGERS

T & B or Similar	
1/2" to 1 1/2" Reducer, each.....	\$.20
1 1/2" to 1 1/2" ".....	.25
1 1/2" to 1 1/2" ".....	.45
1 1/2" to 1 1/2" ".....	.25
1 1/2" to 1 1/2" ".....	.35
1 1/2" to 1 1/2" ".....	.50

NAILS—Insulated

Millonite Insulated Nails, per dozen.....	\$.05
Leather Nail Heads.....	.05
Staples Insulated.....	.05

PLUGS, ATTACHMENT

ATTACHMENT PLUGS COMPLETE

	Price
"Pony" Composition.....	\$0.15
Standard.....	.20
"Pony" Genuine "Bakelite".....	.15
Polarized Standard Comp. Plug.....	.25
Large Size Double T Slot Comp.....	.60
"Standard" Cord Grip Cap.....	.30
"Steel Covered Cap.....	.50
Weatherproof One Piece Comp.....	.50
Benjamin #803 Swivel Plug.....	.20
Pony Body Only.....	\$0.10
Standard Body.....	\$0.15
Large Body.....	\$0.35

10 AMP.—CAPS ONLY

For Attachment Plugs

"Pony" Cap Composition.....	\$0.10
"Standard" Cap.....	.10
"Bakelite".....	.10
Large Size Cap Composition.....	.30
Plug With Extension Knob.....	.15
Soft Rubber Cap.....	.25
"Standard" Cord Grip Cap.....	.30
"Steel Covered Cap.....	.20
"Brass.....	.50
"Steel.....	.40
Disappearing Door Comp. Cap.....	1.15
"Brass Cov. Finger Grip.....	1.40
"Standard" "Knostrain" Comp. Cap.....	.70
"Brass Cov. Knostrain.....	.85
"Comp. Fusible Cap.....	.60
Polarized 2 Wire Comp.....	.30
"2 " Steel Cov. Cap.....	.55
"2 " Steel.....	.20
"2 " Cord Grip.....	.40

20 AMP. CAPS

For Polarized Devices

2 Wire Brass Covered Cap.....	\$0.90
3 " Steel Covered Cord Grip Cap.....	1.20
3 " Steel Covered Cord Grip Cap.....	1.25

30 & 40 AMP. CAPS

For Polarized Devices

30 Amp. 2 Wire Porcelain Cap.....	\$1.85
30 " 2 " Steel Cov. Cord Grip.....	2.00
30 " 3 " Porcelain.....	1.85
30 " 3 " Steel Cov.....	1.90
40 " 3 " Str. Cap Ground. C. G.....	3.25
60 " 3 " Steel Cov. Cord.....	3.00

Flasher Plugs

Diamond Flasher Button.....	\$0.60
No. 125 Skedoodle Plugs.....	\$2.50
"Propp" #530 Flasher Button.....	.50
No. 164 ".....	.60
"Rodale" 110 Volt " Plug.....	.50
No. 161 ".....	.60
" 220 Volt ".....	.65
No. 165 ".....	.90

PLUGS, APPLIANCE

Make	No.	Description	Price
American Beauty	802	Plug Complete for Small Irons.....	\$0.40
	806	" " " Large.....	1.25
	807	" " " Toasters & Stoves.....	.25
Beaver	F-1	"Gripall" Super-Type Adjustable Cont.....	.45
"Gripall" & "Suitzall"	F-4	" " " Nickel Alloy.....	.55
	F-5	" " " Armored Casing.....	.55
	F-6	" " " Nkl. Alloy Cont.....	.60
	F-7	" " " Adj. Cont. Bakelite.....	.50
	F-22	"Suitzall" Heater Plug—Full Size.....	.20

Plugs, Appliance

PLUGS, APPLIANCE, Continued

Beaver	F-31	Standard Heater Plug—Single Sided Cont.	\$0.15
"Gripall" & "Suitzall"	F-32	Heater Plug Double Sided Contacts	.20
	F-33	Armored Casing (F-32 Type Armored)	.25
	F-34	Medium Heater Plug—Bakelite	.25
	F-35	Small Heater Plug—Black	.20
	G-1	"Gripall" Heater Switch Plug Adj. Cont.	.80
	G-2	"Gripall" Heater Switch Plug Nickel Alloy Contacts	.90
	G-21	Competitive Push Button Type	.45
	G-22	New Toggle Type	.45
Bryant	668	Universal Appliance Plug with Switch	.85
	669	Switchless	.60
	752	Appliance Plug with Indicating Switch	.60
	2966	Small Switchless Plug	.45
Cutler-Hammer	7051	Appliance Plug with Switch	.60
G. E.	2602	Armored Heater Plug No Switch	.25
	2633	Large Heater Plug	.20
	2642	Switch "with"	.45
	2699	Small "No"	.25
	2826	"Handy Pull" Heater Plug	.35
Hemco	H250	Switchless Appliance Plug Bakelite	.50
	H260	Switch	.75
Hotpoint	CD6P1	Iron Plug No Switch	.45
	CD6P1	"Armored"	.60
	CD79P1	"with"	1.00
Kool-Pull (Noark)	8037	Appliance Plug—No Switch	.75
	8039	"with"	1.00
Propp	5	One 4-All Appliance Plug—No Switch	.30
	52	Iron Plug with Switch	.50
	55	Standard Iron Plug—No Switch	.30
	56	Armored	.30
Reynolite	500	Heater Plug	.40
	510	Switch Heater Plug	.75
Rodale	P-21	Heater Plug No Switch Cold Molded	.15
	P-29	"Armored"	.20
	450	F uall Heater Plug—No Switch	.45
	610	Bakelite "Small"	.20
	615	"Armored Heater Plug—No Switch	.30
	850	Iron Plug with Switch	.45
	800	"Armored"	.65
Simplex	890	Armored Plug—No Switch	.75
	990	Deluxe Chromplate Plug	1.00
Sunbeam	A-85	Heater Plug	1.50
Torrid	B-070	Automatic Heat Control Plug	1.00
	B-080	Safety	1.00
Waage		3 & 4 Heat Plug Only	.50
Westinghouse	299423	Appliance Plug—No Switch	.75
	373656	"With"	1.00

PANEL BOARDS OR FUSE CABINETS

FRANK ADAM

All 30 Amp.—S. P.—NEC Fuses	Branch	Branch	Branch	Branch
"FBX" Safety Type Fuse Boxes	\$ 3.80	\$ 5.60		
"NR" Main Cable Lug Only			\$ 8.90	\$11.90
"NR" Solid Neutral	11.15	13.40	15.60	
NR3G Main Cable Lug Only			16.50	19.80

ALL FOR PLUG FUSES BENJAMIN-STARRETT

No.	Type and Description	Circt.	Circt.	Circt.	Circt.	Circt.
06104-12 NP	One Fuse 3 Wire Serv.	\$ 5.20	\$ 7.40	\$ 8.90	\$10.40	\$11.90
06204-12 P	Two Fuse 2 and 3 Wire Serv.	7.50	11.15	13.35	15.60	18.60
06304-12 NEP	One Fuse with Switch Pl.	7.10	10.30	12.80	16.50	19.15
06404-12 EP	Two Fuse with Switch Pl.	10.30	15.25	19.15	21.80	25.15

BULLDOG FUSESTERS

No.	Description	2	4	6	8	10	12
CBS	Surface Black Finish with shield	\$1.80	\$2.30	\$3.90	\$7.00	\$9.75	\$10.30
BOS	" Black Finish without shield	1.65	2.15				
BF	Flush Luminized Finish	2.50	3.70	5.35	8.75	10.30	11.75
BFS	" Black Finish	2.00	2.75	4.70			
BSS	" Lum. Finish with Toggle Switches	6.60	9.90	13.20	15.70	19.80	
BSSF	" Lum. Finish with one 30 A. Safetofuse	20.50	22.00	31.75	33.35	35.00	
BSSF	" Lum. Finish with one 60 A. Safetofuse	21.50	22.30	32.25	33.75	35.40	
BKF	" Lum. Finish with Pull Box	6.60	9.90	14.85	17.35	19.80	

All-Steel-Equip. Co., FUSE CABS

Style & No.	Description	2	4	6	8	12
C-702-4-6	Surface Small Type	\$1.80	\$2.55	\$3.95		
C-902-4-6	Flush Small Type	2.10	2.80	4.85		
D-3004 to 3074	Surface Type Single Fuse	3.20	5.10	\$7.50	\$10.10	
D-3034 to 3094	Flush Type	3.20	5.10	5.90	9.00	12.10
D-4002 to 4012	Surface Type Double Fuse	3.20	5.10	10.10	23.00	36.00
D-4022 to 4032	Flush Type Double Fuse	3.75	9.00	12.10	27.00	45.00
DS-3304 to 4304	Flush or Surface-Sgl.	6.90	9.25	13.80	21.00	
DS-3502 to 4502	Flush or Surface-Double	6.90	9.25	21.00	34.50	70.00

KILLARK

Standard Flush Type Panels	2	4	6	8	10	12
Series KRP-2 to 12 Inclusive	\$2.00	\$2.90	\$4.75	\$6.50	\$8.50	\$10.75

CUTLER-HAMMER—Fuse Panels—Flush Mounting

Circuits	2 Cir.	4 Cir.	6 Cir.
Black Finish Series 4355 H1 to 6	\$ 1.90	\$ 2.60	\$ 4.65
Aluminum Finish Series 4355 H1 to 6	2.40	3.45	5.35
Circuits	8 Cir.	10 Cir.	12 Cir.
Black Finish Series 4355 H1 to 6	\$ 8.20	\$ 9.95	\$10.20
Aluminum Finish Series 4355 H1 to 6	8.65	10.95	11.65

G. E. or TRUMBULL—Residence Panel Boards

Surface or Flush Mounting	4	6	8	10	12
Single No 3104 to 3212					
Flush Mtg. or Fusing					
2906 to 2912	\$2.80	\$ 4.55	\$ 9.65	\$11.25	\$13.00
Double No. 3404 to 3412					
Flush Mtg. or Fusing					
2704 to 2712	9.10	12.40	18.15	23.10	26.40

"KILLARK" Fuse Cabinets

Standard Flush Type Panels	2	4	6	8	10	12
Series KRP-2 to 12 Inclusive	\$2.00	\$2.90	\$4.75	\$6.50	\$8.50	\$10.75

SQUARE D—Fuse Cabinets

Series 37000 to 39000	2	4	6	8	10	12
Flush Series 37000 Black	\$1.85	\$2.50	\$4.50	\$7.90	\$9.50	\$11.15
" 37000 Aluminum	2.35	3.35	5.10	8.30	10.00	11.15
Surface Series 39000 Black	1.85	2.50	4.50	7.90	9.50	11.15

NOTE: 2 & 4 Circuit Flush Type arranged for mounting direct to front side of studding with channels for lathe ends, each	2	4	6	8	10	12
60 Amp. Fuse Break and 30 Amp. Circuits						
Flush Mounting Aluminum	\$7.45	\$12.40	\$14.00	\$14.85	\$23.00	\$23.00
Surface "Black"	6.45	10.75	11.55	12.40	20.65	

WESTINGHOUSE Junior Residence Type

All Dead Front Single Fusing	2	4	6	8	10	12
Surface Mtg.	\$2.30	\$3.00	\$4.85	\$5.75	\$7.55	\$11.55
Flush Mtg. Hanger Support	2.85	3.80	6.10	7.55	10.20	12.00
Flush Type for Tgle Sw.	6.85	11.10	13.75	16.40	19.85	
Surface Mtg. Enc. Panel Boards 100 Amp. Mains						
Flush	\$22.00	\$25.35	\$28.00	\$32.00	\$34.65	

PLATES & PLUGS, RECEPTACLE

PLATES—For Flush Receptacles

All Types	Compo- sition	.040 Gauge	.060 Gauge
Single or Duplex Plate	\$0.20	\$0.15	\$0.20
Lift Cover Plate 1 Outlet		\$0.30	\$0.35
Radio Plates—Sgle. or Duplex	.25	.15	.20
Telephone " One Outlet	.20		.35
" Double	.20		.45
Disappearing Door Plate Sgle.			.75
" Duplex			1.15
Chapman Receptacle			.75
Blank Plates One Gang	.20	.25	.30
Bull's Eye Plate One Gang	.75	.60	.70
" and 1 Switch Comb.	.80		1.00
" and 1 Recep.			1.00
Switch and Sgle. or Duplex Recep.	.40	.50	.60
Steel Plates for 30 and 40 Amp. Polarized Receptacles			.80
Solid Brass Plates 30 and 40 Amp.			1.65
Screwless Plates Bakelite for Hubbell Receptacles			.65
Porcelain Enameled Plates for Sgle. or Duplex Receptacles			.25
Mirror Glass Plates for Single Receptacle			1.00
DeLuxe Metal Plates for Single or Duplex Receptacles			.90
DeLuxe Wood Inlaid Plates for Single or Duplex Receptacles			2.35

CAPS & PLUGS For Receptacles

10 Amp. Pony Bakelite Cap	Price
10 " Standard	\$0.10
10 " Cap With Extension Knob	.15
10 " Brass Covered Cap	.50
10 " Steel	.20
10 " Cord Grip Cap	.30
10 " Tandem Blade Compo. Cap	.30
Radio Jack Plug	.50
Chapman Plug Reversible Compo.	1.00
Chapman Plug Porcelain	.60
Disappearing Door Plug Brass Top	1.40
10 Amp. 2 Wire Polariz. Comp. Cap.	.30
10 " 2 " Cord Grip Cap	.40
20 " 2 " Comp.	.60
20 " 2 " Cord Grip	.90
30 " 2 " Comp.	1.00
30 " 2 " Cord Grip	1.95
10 " 3 " Comp.	.50
10 " 3 " Cord Grip	.80
20 " 3 " Comp.	.80
20 " 3 " Cord Grip	1.20
30 " 3 " Comp.	1.95
30 " 3 " Heavy Duty Angle Cap	1.65
40 " 3 " Heavy Duty Angle Cap	3.45
110 Volt 2 CP S8 Carbon Lamp for Bull's Eye Receptacle	.65
110 Volt 2 CP S7	.40

RECEPTACLES, FLUSH

STANDARD RECEPTACLES OR CONVENIENCE OUTLETS

Without Plates	Plates Extra	Price
Shallow Bakelite Side	Single	\$.25
" " " " " "	Duplex	.35
" " " " " "	Single	.25
" " " " " "	Duplex	.35
Deep Bakelite Top	Single	.40
" " " " " "	Duplex	.65
" " " " " "	Single	.40
" " " " " "	Duplex	.60

These prices apply only to the United States

SUNDRY RECEIPTS
Plates Extra Except Where Marked "X"

Per Life Cover Plate Single.	Price
2 Duplex	1.00
1 Sgl. With 3 1/4" Box Cover	.35
1 Dup. " 3 1/4"	.60
1 Sgl. " 4"	.40
1 Dup. " 4"	.55
1 Sgl. " Small Brass Pl.	1.35
1 " Large	.40
Edison Screw Base Recp. Single.	1.00
Chapman Receptacle.....	1.15
Radio Single	1.00
Disappearing Door Recp. Single	1.15
" Duplex	1.75
Screwless Plate Recp. Single	.30
" Duplex	.45
10 Amp. Polariz. For 2 Wire Single.	1.50
20 " " " 2 " "	2.00
30 " " " 2 " "	3.00
10 " " " 3 " Single.	1.70
20 " " " 3 " "	1.90
30 " " " 3 " "	5.00
40 Amp. Polariz. 3 Wire	6.00

No.	DESCRIPTION	Price	Brass	Price
134	Several loud speakers.....	\$2.50	\$2.60	1.10
135	Loud speaker.....	1.00	1.10	1.10
136	Aerial & ground.....	1.00	1.10	1.10
137	Battery (with plug).....	2.00	2.00	2.00
138	Elect. ground.....	1.00	1.00	1.00
142	Double loud speaker.....	1.15	1.80	1.80
235	Loud speaker, aerial & ground.....	2.00	2.00	2.20
241	Aerial, ground & elect'l.....	2.00	2.00	2.20
242	Loud speaker & elect'l.....	2.00	2.00	2.20
243	Aerial, ground & battery.....	2.00	2.00	2.20
253	Loud speaker, aerial, ground & elect'l.....	3.00	3.00	3.00

Pilot Light-Plate and Single Outlet Comp.....	Price
Duplex	\$2.95
Switch and Bull's Eye	4.25
Recept. Only With Plate	3.30
Switch and Plate 10 Amp. Sgle. Out. Comp.	1.60
Hubbell Switch Tap Combination Screw Plate 7093-Recpt. #7168	1.90
Hubbell Switch Tap & Pilot Light Comb. Screw Plate 7317-Recpt. #7280	1.75
	3.35

ALABAX RECEPTACLES AND FIXTURES

Symbol: Column No. 1—Number of Alabaz Fixture.
Column No. 2—Resale Price Standard White Glaze Finish.
Column No. 3—Resale Price All Over Color B-D-E-F-G-H-J-K-L-M.
Column No. 4—Resale Price Stripe Decoration No. 1A-2A-4A.
Column No. 5 and 6—Resale Price Stripe Decoration T and U.

[illegible]

The above Prices do not include Glassware or Lamps.

These prices apply only to the United States

STANDARD RECEPTACLES or Lampholders

STANDARD RECEPTACLE or Lampholders				Uni-	
Keyless Porcelain				versal	
Standard Base				No.	
				Price	
Pony Cleat	Receptacle No.	S. H. Groove	Side Screws	50715	\$0.15
	Round		Center	9171	.20
Standard Cleat			Side	28795	.35
				9402	.30
	With			4013	.40
	Brass Shell			9403	.50
	Concealed	No. S. H. Groove		4000	.45
				4001	.55
Oblong	With			58200	.50
Round				8105	.45
			Removable Rings	50744	.65
Oblong		S. H. Groove for Midg.		4026	.65
Mogul P & S No. 520	Arrow	1012—Husell—C.E. 1104		9445	.05
Miniature or Candelabra	Receptacle (Small Type)			9445	.25
	Extended Type			367	.35

Standard Base		Price
Porcelain Pull for 3 1/4" & 4" Box		\$1.85
Brass Shell 3 1/4" & 4"		2.15
Porcelain Keyless for 4" Box		.50
Brass Shell 3 1/4" & 4" Box		1.00
One Piece Porc. Pull Cord or Ch. 3 1/4" Box		.85
Two Keyless Pull with 7" Ch. 3 1/4"		1.00
	Ch. & Cord 3 1/4"	.65
	Ins. 3 1/4"	.40
	7" Chain 4"	.45
	Ch. & Cord 4"	.50
	Ins. 4"	.55
	Ch. & Cord 4"	.60
Keyless Mounted Blk. Metal Cov. 3 1/4" Box		.90
	Galv. 3 1/4"	.30
	Blk. 3 1/4"	.35
	Galv. 3 1/4"	.35

	P-350 BOX RECEPTACLES—Surface Type	Price
10	Amp. Standard Receptacle.....	\$0.60
10	" " " " " " " " " " " "	.60
20	Receptacle with Covered Term.....	.70
20	Polarized Receptacle.....	.70
10	Sgle. Porc. Rec. for 3½" Box.....	.45
10	Duplex " " " " " " " " " " " "	.50
10	Sgle. " " " " " " " " " " " "	.60
10	Duplex " " " " " " " " " " " "	.65

Great and Concealed Bases		Price
10 A. Small Concealed	2 Wire	\$.60
10 A. Small Cleat	2 "	".60
10 A. For Wood Molding	2 "	".60
10 A. Polarized Cleat	2 "	".70
10 A. Polarized Concealed	2 "	".70
10 A. Polarized Wood Molding	2 "	".80
10 A. Fielding Receptacle	2 "	".70
10 A. Polarized Concealed	2 "	1.00
20 A. Polarized Cleat	2 "	1.00
20 A. Polarized Concealed	2 "	1.00
20 A. Polarized Wood Molding	2 "	".95
20 A. Polarized Concealed	2 "	1.30
20 A. Polarized Composition	2 "	1.35
40 A. Polarized Concealed	2 "	1.60
40 A. Polarized Composition	2 "	2.10
Port. Sub. Base for 40 Amp. Rec.		1.80

Pull for Ceiling Ring 7" Chain.....	\$0.35
" " " 4" Cord.....	.35
" " " Chain & Ins.....	.40
" " " & Cord.....	.40
" " " 3" Chain.....	.60

Keyless Removable Ring		Price
Stand. Shallow Screw Term.	Covered	\$0.30
"	"	"
"	With 6" Wire Lead.	.40
"	S. H. Groove.	.40
Competitive Shallow Screw Term.	Covered	.15
"	"	.20
"	No. 14 Wire Lead.	.15
Deep Type With Screw Term.	Covered	.30
"	"	.30
"	No. 18 Wire Lead.	.40
Solid Sign Rec. With Screw Trim.	Covered	.20

Porcelain Cleat Receptacle.....	\$1.80
" " " 2 Screw.....	.80
" " with Spring Stud.....	.80
" " Removable Ring.....	.80

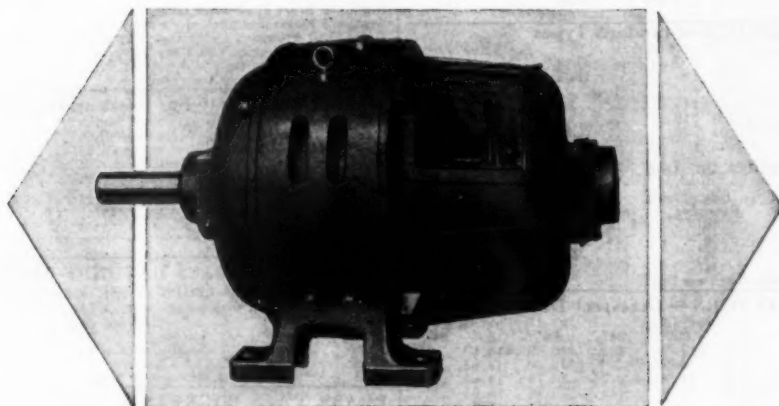
STANDARD ROSETTES—Porcelain

Cleat—1 Piece Junior Fuseless Rosette.....		\$.18		
" " " " " " " " " " " " " " " "		.26		
" " " " " " " " " " " " " " " "		.40		
Concealed—2 Pieces Jr. Concealed Fuseless Rosettes.....		.23		
" " " " " " " " " " " " " " " "		.40		
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" " " " " " " " " " " " " " " "		.40		
" " " " " " " " " " " " " " " "		.40		
Box Type—1 Piece Rosette or Screw Terminal.....	3¢ Box	.58	For	Box
" " " " " " " " " " " " " " " "	Winco	.55	For	Box
For Special Conduit Rosettes—See Pages PL-10, 11 and 12.		.40		

For Special Condulet Rosettes—See Pages PL-10, 11 and 12

Electrical Contracting, July, 1931

THEY KEEP A-RUNNING



10 Horse Power Century Type SR Slip Ring Induction 3 and 2 Phase Motors

FOR STARTING EXCEPTIONALLY HEAVY LOADS

Wherever a motor is subjected to exceptionally severe starting conditions or where speed reduction is desirable, the use of Century Type SR Slip Ring Induction 3 and 2 Phase Motors is particularly recommended . . . When equipped with speed control, the speed can be varied down to one half the normal of maximum speed rating.

These motors are well-balanced in design—no one characteristic is over-developed at the expense of another . . . The shafts are generously proportioned and ground overall and polished on the bearing surfaces . . . The bearings last—they are made from phosphor bronze castings . . . Protective enclosing covers can be furnished in screened, gridded, drip-proof, fully-enclosed or dust-proof types.

Built in standard sizes from $\frac{1}{4}$ horse power.

CENTURY ELECTRIC COMPANY

1806 PINE ST. • ST. LOUIS, MO.

40 U. S. and Canadian Stock Points and More Than 75 Outside Thereof

SINGLE PHASE,
THREE PHASE,
AND DIRECT
CURRENT MOTORS

Century
MOTORS

MOTOR GENERA-
TOR SETS, ROTARY
CONVERTORS, FANS
AND VENTILATORS

FOR MORE THAN 27 YEARS AT ST. LOUIS

SR-1-10



Where Long-Wearing Qualities Count!

The lighting equipment on this service station must stand the wear and tear of all kinds of weather. Here Appleton No-Thread Malleable Unilets meet this requirement because they are made of malleable iron and have a cadmium finish that insures against rust.

Appleton No-Thread Unilets can be quickly installed and last longer. Contractors can get this modern service station business by figuring on Appleton No-Thread Unilets.

Write for further information

SOLD THROUGH JOBBERS

APPLETON ELECTRIC COMPANY

1704 Wellington Ave., Chicago, U. S. A.

New York—150 Varick St.
Los Angeles—340 Azusa St.

San Francisco—655 Minna St.
Seattle—628 Railroad Ave.

Manufacturers of Appleton Constant Duty and Portable Type Reelites



Type "NTT"
No-Thread Unilet



Type "NTC"
No-Thread Unilet



Type "NTLL"
No-Thread Unilet



No-Thread Coupling

APPLETON

No-Thread Malleable

UNILETS

THE ORIGINAL THREADLESS CONDUIT FITTINGS

Reg. U. S. Pat. Off.

All Keyless

Copper or Aluminum Sheen		Price
All Keyless		
1	Piece with $\frac{3}{8}$ or $\frac{1}{2}$ Nipple.....	\$0.65
1	" " Cord Grip.....	.65
1	" " $\frac{1}{2}$ Nipple.....	.80
1	" " $\frac{3}{8}$ Nipple.....	.80
2	" " Cord Grip.....	.80
Shadeholders for above sockets.		
2 1/2	Aluminum or Copper Extra.....	\$0.35
4	" " " ".....	.65
4	" " " ".....	.65

Socket with Clamp Ring #4700 to 4703 Medium B.

Benco Keyless Socket	with Clamp Ring #4700 to 4703 Medium Base.....	\$1.25
	" " without " " " " " " " "	1.05
" Full	" " " " " " " " " " " "	.80
	" " " " " " " " " " " "	.60
Benco Keyless Socket	Copper or Alum. #4200-1-4-5 & 4335 & 7.....	.75
	" Brass #4202-4203-4336.....	.90
" Full	#4207-S 4225-26 4230-37 Brass, Copper or Alum.....	1.50
" Mogo	" " " " " " " " " " " "	.80
Benco Threaded Holder	" " " " " " " " " " " "	.25
	" " " " " " " " " " " "	.35
Polish. Alum. Weatherpri-	#4215 & 4217.....	.60
Copper	" - 4370-72 & 73.....	.40
Brushed Brass	-4377-79 & 80.....	.60
		1.00

Without

	Without Yoke	% or Yoke	% or Yoke
One Piece Socket with Lamp Grip.....	\$1.00	\$1.15	\$1.80
Two Piece Socket with Lamp Grip.....	1.20	1.45	1.70

or Similar	With Type X or
1	1
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100	100

Porcelain or Sillar		With Type X or XR Fitting	
Medium Base Keyless Tapped	36-36-36 No. 4650-51 & 65.	\$1.20	
" " " Self-Locking	36-36-36 No. 4528-29-30-32-33.	1.40	
" " " Shock Absorb.	36-36-36 No. 4676-77-78-80-81.	1.65	
" " " Shock Absorb. Self Lock	No. 4548-49-50-52-53.	1.65	
" " " Pull Chain No.	4534-35 & 4660-61-67.	2.05	
Mogul Base Keyless Shock Absorbing	No. 4670-72.	1.65	
" " " Shock Absorbing	No. 4656.	1.65	
If X or XR Fitting not supplied on above sockets deduct.		.15	

Plates & Boxes Extra		Price
Square Handle Porcelain Cup—Sgl. Pole.....	Dble.	.31
" " " " " "	3 Way	.51
" " " " " "	4	.33
Composition Cup—Sgl. Pole.....	Dble.	.90
" " " " " "	3 Way	1.50
" " " " " "	4	1.60
20 Amp. Sgle. Pole Composition Cup.....		3.60
20 Amp. Dble. Pole Composition Cup.....		2.00
Round Handle Metal Porcelain Cup—Sgl. Pole.....	Dble.	.78
" " " " " "	3 Way	1.51
" " " " " "	4	4.00

.....

Two-2 Sgls. Pole Switches	\$1.60
Two-2 Sgls. Three Way	1.75
Two-2 Sgls. 3 Way Switches	1.75
Triplet-3 Sgls. Pole Switches	2.15
Triplet-2 Sgls. & 1-2 Way Switches	2.30
Lock Type Porcelain Cup-Sgl. Pole	1.80
" " " " Dbis.	2.65
" " " " 3 Way	2.20
" " " " 4	5.65
EXTRAS—For Luminous add for Each Handle	
For Glo Guide Handle Switches add for Each	1.00

EXTRAS— For Luminous Tip add for Each Handle.....	0.40
For Glo Guide Handle Switches add for Each.....	1.00

Code	Description
000000	Blank
000001	Blank
000002	Blank
000003	Blank
000004	Blank
000005	Blank
000006	Blank
000007	Blank
000008	Blank
000009	Blank
000010	Blank
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	Description	Price
6 A. S. P. Switch—Pilot Lt.—Textolite Plate.....		\$2.84
10 A. D. P. Switch—Pilot Lt.—060 Plate.....		3.30
10 " " " Receptacle " "		1.90
20 " " " 15A " "		2.20
Switch—Tap & Pilot Light with " "		3.30
" " " Receptacle " "		3.75

1
Cass

	1	2	3	4
	Gang	Gang	Gang	Gang
Stamped Brass Sprayed Finish .040 Thick.....	.15	.30	.45	1.10
" " Brush Brass .040 ".....	.20	.40	.60	1.30
" " Sprayed .060 ".....	.25	.50	.75	1.60
" " Brush Brass .060 ".....	.30	.60	.90	1.60
Bakelite or Composition Molded.....	.20	.40	.60	.80
Twin & Triple B. B. or Bakelite Plates.....	..	.25	.25	..
Comb. Switch and Recept.—Moulded Comp. ....	.30	.40	..	..
" " Pilot Light.....	.75	..	..	..
Hubbell Bakelite Screwless Plates.....	.60	1.10	1.60	2.20
Bryant DeLuxe Wood Moulded any Finish.....	2.70	..	..	..
" " Al. Metal.....	1.00	1.75	2.45	..
Guth Porcelain Enamel Plates.....	.25	.60	1.00	..
Glass Mirror Plates.....	1.00	1.75	2.50	3.20
Blank Plate .040 Brush Brass Finish.....	.30	.60	.90	..

Plate & Boxes Extra		Price
Standard Shallow Type Porcelain Cup—Single Pole.....	Double.....	\$0.4
.....	3 Way.....	1.6
.....	4.....	.8
.....	.....	4.6
Deep Type Porcelain Cup—Single Pole.....	Double.....	.5
.....	3 Way.....	1.6
.....	4.....	.8
.....	.....	4.6

Grade Composition Cup—Single Pole.....

Special High Grade Composition Cup—Single Pole.....	\$1.05
" " " " "Double " " " "	2.00
" " " " "3 Way " " " "	2.00
" " " " " " " " " "	4.00
Lock Type Standard Porcelain Cup—Single Pole.....	2.00
" " " " "Double " " " "	2.00
" " " " "3 Way " " " "	2.65
" " " " " " " " " "	5.00
Electrolite Non-Indicating.....	2.50
" " " " "Indicating.....	2.70
Extra for Luminous Button Add Per Switch....	.20

With Plates

	With Plates	Price
Bryant 117 D. P. Indicat. Switch Flush Receptacle & .060 Plate.....		\$2.50
413 One Push Switch-Bulls Eye and Solid Plate.....		4.80
518 " " Disap. Door Recp. Bulls Eye—Solid Plate.....		8.85
465 " D. P. Flush Switch & Pilot Lamp .060 Plate.....		3.90
467 " Flush Switch—Flush Recep.—Bulls Eye—Solid Plate.....		6.15
558 " Duplex.....		7.00

Duration $\frac{1}{60}$

	Description	Gang 1	Gang 2	Gang 3	Gang 4
Stamped Brass Sprayed Finish .040 Thick.....		\$. 15	\$.30	\$.45	\$1.10
" " Brush Brass .040 .....		.20	.40	.60	1.35
" " Sprayed .060 .....		.25	.50	.75	1.40
" " Brush Brass .080 .....		.30	.60	.90	1.80
Bakelite or Composition .....		.20	.40	.60	
Bryant DeLuxe Plates Wood Inlaid.....		2.75	4.70	7.70	.....
" " All Metal.....		1.00	1.75	2.45	.....
Guth Porcelain Plates.....		.25	.60	1.00	.....
Glass Mirror Plates.....		1.00	1.75	2.50	3.25
Blank Plate .040 Brush Brass Finish.....		.30	.60	.90	.....
Combination Switch & Receptacle Moulded.....		.80	.40	.50	.....
" Push & Reset Plate .060 Brass.....	
" " " " " " " " " " " "		"	"	"	"
" " " " " " " " " " " "		"	"	"	"
" " " " " " " " " " " "		".65	1.75	....	....
" " " " " " " " " " " "		"	"	"	"

1974-1975, 1975-1976, 1976-1977, 1977-1978, 1978-1979, 1979-1980, 1980-1981, 1981-1982, 1982-1983, 1983-1984, 1984-1985, 1985-1986, 1986-1987, 1987-1988, 1988-1989, 1989-1990, 1990-1991, 1991-1992, 1992-1993, 1993-1994, 1994-1995, 1995-1996, 1996-1997, 1997-1998, 1998-1999, 1999-2000, 2000-2001, 2001-2002, 2002-2003, 2003-2004, 2004-2005, 2005-2006, 2006-2007, 2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, 2022-2023, 2023-2024, 2024-2025, 2025-2026, 2026-2027, 2027-2028, 2028-2029, 2029-2030, 2030-2031, 2031-2032, 2032-2033, 2033-2034, 2034-2035, 2035-2036, 2036-2037, 2037-2038, 2038-2039, 2039-2040, 2040-2041, 2041-2042, 2042-2043, 2043-2044, 2044-2045, 2045-2046, 2046-2047, 2047-2048, 2048-2049, 2049-2050, 2050-2051, 2051-2052, 2052-2053, 2053-2054, 2054-2055, 2055-2056, 2056-2057, 2057-2058, 2058-2059, 2059-2060, 2060-2061, 2061-2062, 2062-2063, 2063-2064, 2064-2065, 2065-2066, 2066-2067, 2067-2068, 2068-2069, 2069-2070, 2070-2071, 2071-2072, 2072-2073, 2073-2074, 2074-2075, 2075-2076, 2076-2077, 2077-2078, 2078-2079, 2079-2080, 2080-2081, 2081-2082, 2082-2083, 2083-2084, 2084-2085, 2085-2086, 2086-2087, 2087-2088, 2088-2089, 2089-2090, 2090-2091, 2091-2092, 2092-2093, 2093-2094, 2094-2095, 2095-2096, 2096-2097, 2097-2098, 2098-2099, 2099-2100, 2100-2101, 2101-2102, 2102-2103, 2103-2104, 2104-2105, 2105-2106, 2106-2107, 2107-2108, 2108-2109, 2109-2110, 2110-2111, 2111-2112, 2112-2113, 2113-2114, 2114-2115, 2115-2116, 2116-2117, 2117-2118, 2118-2119, 2119-2120, 2120-2121, 2121-2122, 2122-2123, 2123-2124, 2124-2125, 2125-2126, 2126-2127, 2127-2128, 2128-2129, 2129-2130, 2130-2131, 2131-2132, 2132-2133, 2133-2134, 2134-2135, 2135-2136, 2136-2137, 2137-2138, 2138-2139, 2139-2140, 2140-2141, 2141-2142, 2142-2143, 2143-2144, 2144-2145, 2145-2146, 2146-2147, 2147-2148, 2148-2149, 2149-2150, 2150-2151, 2151-2152, 2152-2153, 2153-2154, 2154-2155, 2155-2156, 2156-2157, 2157-2158, 2158-2159, 2159-2160, 2160-2161, 2161-2162, 2162-2163, 2163-2164, 2164-2165, 2165-2166, 2166-2167, 2167-2168, 2168-2169, 2169-2170, 2170-2171, 2171-2172, 2172-2173, 2173-2174, 2174-2175, 2175-2176, 2176-2177, 2177-2178, 2178-2179, 2179-2180, 2180-2181, 2181-2182, 2182-2183, 2183-2184, 2184-2185, 2185-2186, 2186-2187, 2187-2188, 2188-2189, 2189-2190, 2190-2191, 2191-2192, 2192-2193, 2193-2194, 2194-2195, 2195-2196, 2196-2197, 2197-2198, 2198-2199, 2199-2200, 2200-2201, 2201-2202, 2202-2203, 2203-2204, 2204-2205, 2205-2206, 2206-2207, 2207-2208, 2208-2209, 2209-2210, 2210-2211, 2211-2212, 2212-2213, 2213-2214, 2214-2215, 2215-2216, 2216-2217, 2217-2218, 2218-2219, 2219-2220, 2220-2221, 2221-2222, 2222-2223, 2223-2224, 2224-2225, 2225-2226, 2226-2227, 2227-2228, 2228-2229, 2229-2230, 2230-2231, 2231-2232, 2232-2233, 2233-2234, 2234-2235, 2235-2236, 2236-2237, 2237-2238, 2238-2239, 2239-2240, 2240-2241, 2241-2242, 2242-2243, 2243-2244, 2244-2245, 2245-2246, 2246-2247, 2247-2248, 2248-2249, 2249-2250, 2250-2251, 2251-2252, 2252-2253, 2253-2254, 2254-2255, 2255-2256, 2256-2257, 2257-2258, 2258-2259, 2259-2260, 2260-2261, 2261-2262, 2262-2263, 2263-2264, 2264-2265, 2265-2266, 2266-2267, 2267-2268, 2268-2269, 2269-2270, 2270-2271, 2271-2272, 2272-2273, 2273-2274, 2274-2275, 2275-2276, 2276-2277, 2277-2278, 2278-2279, 2279-2280, 2280-2281, 2281-2282, 2282-2283, 2283-2284, 2284-2285, 2285-2286, 2286-2287, 2287-2288, 2288-2289, 2289-2290, 2290-2291, 2291-2292, 2292-2293, 2293-2294, 2294-2295, 2295-2296, 2296-2297, 2297-2298, 2298-2299, 2299-2300, 2300-2301, 2301-2302, 2302-2303, 2303-2304, 2304-2305, 2305-2306, 2306-2307, 2307-2308, 2308-2309, 2309-2310, 2310-2311, 2311-2312, 2312-2313, 2313-2314, 2314-2315, 2315-2316, 2316-2317, 2317-2318, 2318-2319, 2319-2320, 2320-2321, 2321-2322, 2322-2323, 2323-2324, 2324-2325, 2325-2326, 2326-2327, 2327-2328, 2328-2329, 2329-2330, 2330-2331, 2331-2332, 2332-2333, 2333-2334, 2334-2335, 2335-2336, 2336-2337, 2337-2338, 2338-2339, 2339-2340, 2340-2341, 2341-2342, 2342-2343, 2343-2344, 2344-2345, 2345-2346, 23

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Poles	Volts	Type	Size	5 Amp.	10 Amp.	20 Amp.	30 Amp.
Single	125	Non-Indicating.....	Pony	\$.35
"	"	Indicating.....	"	.40	....	....	....
"	"	Non-Indicating.....	Standard	.40	\$1.50	\$2.30	\$2.80
"	"	Indicating.....	"	.65	1.65	2.45	2.95
Double	250	Non-Indicating.....	"	.95	1.10	2.30	2.80
"	"	Indicating.....	"	1.05	1.25	2.45	2.95
Triple	"	Non-Indicating.....	"	....	3.10	3.90	4.50
"	"	Indicating.....	"	....	3.30	4.10	5.00
2-Way	125	Non-Indicating.....	"	1.10	1.75	2.45	2.95
4-Way	"	Non-Indicating.....	"	1.40	3.15
Electrolier	"	Non-Indicating.....	"	2.10
"	"	Indicating.....	"	2.30

		5	10
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				5	10	20	30
Poles	Volts	Type	Size	Amp.	Amp.	Amp.	Amp.
Single	125	Non-Indicating.....	Pony	\$.50
"	125	Indicating.....	"	.70	.....	.....	.....
"	125	Non-Indicating.....	Standard	.75	\$1.10	\$.75	\$2.60
"	125	Indicating.....	"	.85	1.15	1.90	2.70
Double	250	Non-Indicating.....	"	1.00	1.30	2.60	3.90
"	250	Indicating.....	"	1.20	1.45	2.80	3.15
3-Way	125	Non-Indicating.....	"	1.80	1.45	2.80	3.15
4-Way	125	Non-Indicating.....	"	2.20	2.20	.....	.....
Electrolier	125	"	"	.....	1.60	.....	.....
"	125	Indicating.....	"	.....	1.80	.....	.....

Metal or Composition Covers

		Metal or Composition Covers			
		Single	Double	3	4
125-250 Volt		Pole	Pole	Way	Way
5 Amp. Closed or Slott.	Base.....	\$.40	\$.95	\$.90	\$1.50
5 Amp. with Outlet Box Cover	3½ or 4"	.60	...	1.00	...
10 Amp. Closed or Slott.	Base.....	.90	1.25	1.35	...

Metal Covered	All Porcelain
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	Metal Covered		All Porcelain	
	Non-Indicating	Indicating	Non-Indicating	Indicating
Single Pole.....	\$.65	\$.60	\$.75	\$.70
Double *.....	1.20	1.10	1.20	1.10
Three Way.....	.....	1.00	1.20	.....
Electrolier.....	1.50	1.50	.....	.....

rd Type Each \$.12—Ratchet Type.....

Handles—Standard Type Each	\$.12	—Ratchet Type	.....	\$ .2		
Bases—Porcelain 5 Amp.	\$.12	—10 Amp.	\$.15	—20 Amp.	.....	\$ .3
Covers—10 Amp & Under Metal	\$.15	—Porcelain	.....	\$ .2		
Over 10 Amp.	.30					

BILL CORD SWITCHES BODIES ONLY

Small Socket Type

Small Socket Type		Pri	Pr
Ceiling—Bottom Pull.....		1.0	1.0
Wall—Side Pull.....		1.0	1.0
Rosette—Side Pull.....		1.0	1.0
Fixture—Bottom Pull.....		1.2	1.2
	1/4" Brass Cap.....	1.1	1.1
	1/4" Brass Cap.....	1.2	1.2
	1/4" Brass Cap.....	1.2	1.2
Addition	Small Cleat Base.....	1.2	1.2
for	Small Slotted or Concealed Base.....	1.2	1.2
Cap and Bases	Large Concealed Base.....	1.2	1.2
for	Wall Mounting.....	1.2	1.2
Above Switch	Small Box Base Brass Covered.....	1.2	1.2
Bodies	3/4" Box Base Brass Covered.....	1.2	1.2
	4" Box Base Brass Covered.....	1.2	1.2
	3/4" Box Cover with Ring.....	1.2	1.2
	4" Box Cover with Ring.....	1.2	1.2

Electrical Contracting, July, 1931

61

Amps. Poles	Fused	Neutral	Meter		Non-Meter	
			Test Type	Test Type	Test Type	Test Type
30 2	2 Plug	Fused	Number	Price	Number	Price
30 2	2 *	Fused	36231	\$ 3.50	16231	\$ 3.10
30 2	2 *	Fused	36233	3.50	16231	3.10
30 2	2 *	Unfused	36331	3.70	16331	3.25
30 2	2 Enc.	Fused	36381	4.10	16381	3.75
30 2	2 *	Solid	36251	4.10	16251	3.70
30 2	2 *	Unfused	36271	4.80	16271	3.40
30 2	2 *	Unfused	36361	4.30	16361	3.85
60 2	2 *	Solid	36371	4.30	16371	3.85
60 2	2 *	Fused	36252	12.90	16252	11.95
60 2	2 *	Solid	36272	12.00	16272	11.10
60 2	2 *	Unfused	36362	19.00	16362	17.90
60 2	2 *	Solid	36372	13.75	16372	12.85
100 2	2 *	Fused	36253	21.25	16253	20.35
100 2	2 *	Solid	36273	21.25	16273	19.45
100 2	2 *	Unfused	36363	25.50	16363	24.50
100 2	2 *	Solid	36373	23.00	16373	21.25

Enclosed Double Branch Cutout No. 35211—30 Amp. 125 Volts.....	\$2.35
Fused Plug Receptacle " 5021—30 " 125 "	2.20
Cartridge " 5001—30 " 250 "	5.65
Cabinet Porcelain Fuse Block " 1021—30 " 125 "	1.25

"Square D" Meter Service Types			
Single Type		Ganging Type	
No. 32211 or 33211.....	\$3.70	No. 12211-13211.....	\$4.15
No. 32311.....	4.00	No. 12311.....	4.45
No. 34211.....	4.60	No. 14311.....	5.65
No. 34311.....	5.25		

"Square D" Without End Walls Live & Dead Fuse Type

Number	Amps.	Pts	Fused	Neutral	Description	Price
58211	30	2	1	Plug	Solid	\$ 2.35
58211	30	2	2	"	Fused	Live..... 2.95
SK-916	30	2	1	"	Solid	" " " " Live..... 2.95
58311	30	3	2	"	Solid	" " " " Dead..... 2.95
57311	30	3	2	"	Solid	" " " " Dead..... 3.70
15311	30	3	1	"	"	Gang Type Fuse Dead..... 3.70
18211	30	2	2	"	Fused	" " " " Live..... 3.35
39231	30	2	1	"	Solid	Gang Type Acces. M. Fuses 4.40
39331	30	3	2	"	"	Gang Type Acces. M. Fuses 5.20
15311	30	3	2	"	Solid	" " " " Dead..... 4.15
17311	30	3	2	"	"	" " " " Live..... 4.15
58251	30	2	2	Cart.	Fused	Extra for End Wall..... .30
26251	30	2	2	"	Fused	Cartridge Fuse Live..... 3.30
57351	30	3	2	"	Solid	" " " " Dead..... 4.05
28251	60	2	2	"	Fused	" " " " Live..... 4.05
27311	60	3	2	"	Solid	" " " " " " " " 8.45
14311	60	3	2	"	"	" " " " " " " " 8.90
28351	100	2	2	"	Fused	" " " " " " " " 12.95
27311	100	3	2	"	Solid	" " " " " " " " 15.95
14311	100	3	2	"	"	" " " " " " " " 15.95
27311	100	3	2	"	"	" " " " " " " " 27.35

Number	Amps.	Pole	Fused	Neutral	Description	Price
26311	30	3	2 Plug	Solid	Plug Type Fuse Dead.....	\$ 2.58
26351	30	3	2 Cart.	"	Cart. Type Fuse Dead.....	4.03
SK-659	30	3	2 Cart	Switched	Cart. Type Fuse Dead.....	4.60
SK-660	60	3	2 "	"	Cart. Type Fuse Dead.....	11.70
SK-674	100	3	2 "	"	Cart. Type Fuse Dead.....	19.20

"Square D" Accessible Main Fuse Type

Number	Amp	Pole	Fused	Price
30391	30	3	3 Cart.....	\$10.65
30392	60	3	"	20.35
30393	100	3	"	30.00
NON METER TEST				
Number	Amp.	Pole	Fused	Price
10391	30	3	3 Cart.....	\$10.05
10392	60	3	"	18.60
			"	

METER TEST TYPE					Price
Number	Amp.	Pole	Fused		
36351	30	3	3 Cart.....		\$11.00
36352	60	3	3 "		17.80
36393	100	3	3 "		26.50

Number	Amp.	Pole	Fused	Price
SK-671	30	3	3 Cart.....	\$ 4.60
SK-672	60	3	3 ".....	11.70
SK-673	100	3	3 ".....	19.20

End Walls for 30 Amp. Switches.....	\$3.00
60 & 100 Amp. Switches.....	.80
Trough Closing Plates No. 20533 & 34.....	10.00
Connecting Trough No. 20733—3½" Long.....	4.00
20738—8½".....	.80
Universal End Wall & Shutters.....	1.00
Meter Shutter only No. 24358.....	.30

	Enam.	Galv.
SK2158 with Test Block.....	\$7.06	\$9.51
SK2186 without Test Block.....	4.85	7.36
12611 W. P. Meter Sw. Box.....	9.90	...

TYPE C= Square D® Single Throw, Industrial Switches
Quick Break Only

Amps.	2 Pole	3 Pole	Acryl.	Acryl.	Description	Unlabeled
30	\$85251 \$3.20	\$85351 \$5.20	30	57.5V.	Fused.	46341 \$10.00
60	\$6252 \$8.20	\$6352 9.10	30-60	57.5V.	Not Fused	41342 10.90
60	Solid Neutral 1	\$17312 9.10	60	57.5V.	Fused.	46342 13.60
100	\$5253 \$12.75	\$5353 15.50	100	57.5V.	Not Fused	41343 13.70
100	Solid Neutral	\$8313 14.60	100	57.5V.	Fused.	46343 21.80
200	\$6254 \$30.00	\$6354 26.40	200	57.5V.	Not Fused	41344 29.10
200	Solid Neutral 1	\$7314 22.75	200	57.5V.	Fused.	46344 38.20

230 V. DC. and AC, Fusible 250-600 V. DC. and 575 V. AC, Unfusible

Amps.		2 Pole		3 Pole		Amps		2 Pole		3 Pole	
x30				#80351	\$13.65	x30		#81252	\$ 9.55	#81351	\$11.40
60	#86252	13.65		#86352	18.20	30-60	#81262	12.75		#81342	15.05
100	#86253	20.90		#86353	27.30	100	#81263	20.95		#81343	24.10
200	#86254	36.40		#86354	40.95	200	#81264	28.20		#81344	34.60
400	#86255	68.00		#86355	90.75	400	#81265	51.50		#81345	90.75
600	#86256	100.00		#86356	136.00	600	#81266	118.00		#81346	127.00
x60 Amp. Sw. with 30 Amp. Spacing											
(x=250 Volts only)											

“Square D”, Quick Break, Industrial, Single Throw

250 Volts		Description		Single Throw	
2 Pole				3 Pole	
No. 80251	\$3.20	Quick Make & Break	No. 89351	\$ 5.20	
91251	2.65	Not Quick Break	91351	4.00	
x90251	7.75	Quick Break Only	x90351	10.00	

(x 60 Amp. Switches with 30 Amp. Clips)

Cutler-Hammer (T-V) Single Throw Industrial Type

Series 4131									
250 Volts DC or AC Fusible					575 Volts AC Fusible				
Amps 2 Pole		3 Pole			Amps 2 Pole		3 Pole		
30	4131H2	3.20	4131H3	5.20	30	4131H24	10.00	4131H5	18.20
60	4131H3	8.20	4131H4	10.00	60	4131H25	13.65	4131H55	20.00
100	4131H4	12.75	4131H5	15.50	100	4131H26	21.85	4131H56	30.40
200	4131H5	20.00	4131H6	26.40	200	4131H27	38.25	4131H57	51.90
400	4131H6	49.15	4131H7	67.35					
125-250 Volt Solid Neut. Fusible					Non-Fusible Type 250 DC 500-600 AC				
Amps 3 Pole		4 Pole			Amps 2 Pole		3 Pole		
30	4131H39	6.75	4131H44	8.20	30	4131H54	3.20	4131H58	8.60
60	4131H40	13.50	4131H45	15.50	60	4131H55	5.20	4131H59	14.10
100	4131H41	14.60	4131H46	20.00	100	4131H56	10.90	4131H60	12.30
200	4131H42	22.75	4131H47	31.85	200	4131H57	19.10	4131H61	22.75
400	4131H43	63.70	4131H48	82.00	30	Amp 250 Volts Only			

Cutler-Hammer (T-V)

Amps	Description	2 Pole	Price	3 Pole	Price
30	For Plug Fuses.....	4141H1&2	\$ 1.65	4141H3-4	\$ 2.90
30	2 Blades - 2 Fuses.....	4141H5		4141H5	2.25
30	For Cartridge Fuses.....	4141H6		4141H9-10	3.60
30	For Cartridge Fuses.....	H4141H7	2.75		
30	For 2 Cart. Blades-2 Fuses..			4141H11	3.25
30	Non-Fusible.....	4141H23	2.35	4141H24	4.00
60	For Cartridge Fuses.....	4141H13	6.70	4141H14-15	7.80
60	For 2 Blades & 2 Fuses.....	4141H16		4141H17	11.00
100	For Cartridge Fuses.....	4141H18	10.30	4141H19-20	12.65
100	For 2 Blades & 2 Fuses.....			4141H21	11.90

Cutler-Hammer (T-V) Without End Walls

Meter Test Type		Live Fuse Type	Without End Walls	
30	For Plug Fuses.....	4307H1&5	\$ 2.95	4307H9 \$ 3.70
30	For Cartridge Fuses.....	4307H2&6	3.30	4307H10 4.05
60	For Cartridge Fuses.....	4307H3&7	8.45	4307H11 8.90
100	For Cartridge Fuses.....	4307H4&8	15.05	4307H12 16.00
		Dead Fuse Type		
30	For Plug Fuses.....	4309H1	2.40	4309H3 3.70
30	For Cartridge Fuses.....	4309H4	3.50	4309H6 4.30
60	For Cartridge Fuses.....	4309H7	12.00	4309H9 13.75
100	For Cartridge Fuses.....	4309H10&11	21.20	4309H12 23.00

Cutler-Hammer (T-V) Without End Walls

Accessible Main Fuses		Without End Wall	
Test Type			
30	For Plug Fuses.....	4325H1&2	\$ 4.00 4325H3 \$ 4.50
30	For Cartridge Fuses.....	4325H4&5	4.80 4325H6 4.80
60	For Cartridge Fuses.....	4325H7&8	15.00 4325H9 15.00
100	For Cartridge Fuses.....	4325H10&11	23.85 4325H12 25.00
Non-Test Type			
30	For Plug Fuses.....	4327H1&2	3.65 4327H3 4.00
30	For Cartridge Fuses.....	4327H4&5	4.60 4327H6 4.60
60	For Cartridge Fuses.....	4327H7&8	14.15 4327H9 15.00
100	For Cartridge Fuses.....	4327H10&11	23.00 4327H12 24.00

Meter Service and Entrance Switches

Description				Without End Wall			
				30 A	60 A	100 A	200 A
Sealed Fuses-Meter Test 3 Phase 3 Wire...				\$11.35	\$17.60	\$27.30	\$57.25
"	"	3	4	13.85	33.45	50.15	90.60
Acces.	"	3	3	11.45	21.15	30.80	66.00
"	"	3	4	15.60	37.00	53.70	98.60
"	Non	3	3	10.85	19.35	29.05	48.40
"	"	3	4	11.45	21.15	30.80	56.30

Cutler-Hammer (T-V)

No.	Without End Walls	Price
4311H1	All 30 Amp. Standardized Meter Service Switches Branch Circuit Type.	\$3.75
4311H2		4.00
4311H3		4.60
For Detailed Description See Cutler-Hammer (Trumbull Vandervoel) Catalog		

Cutler-Hammer (T-V) 30 Amp 60 & 10 Amp

Single Piece End Wall used with Cabinet.....	\$.35	\$.
Shutters for Shutter Type End Wall.....	.15	.30
Conduit End Wall.....	.35	.60
Universal End Wall.....	.35	

Single Throw—Series 4111

Fusible 250 Volt DC or AC				Fusible 575 Volt AC					
Amps.	2 Pole	3 Pole		Amps	2 Pole	3 Pole			
30	4111H1	\$10.90	4111H20	\$13.65	30	4111H11	\$16.40	4111H30	\$20.00
60	4111H2	13.65	4111H21	18.20	60	4111H12	17.30	4111H31	20.90
100	4111H3	20.95	4111H22	27.30	100	4111H13	27.30	4111H32	31.80
200	4111H4	36.40	4111H23	41.00	200	4111H14	42.80	4111H33	52.80
400	4111H5	68.25	4111H24	91.00	400	4111H15	100.00	4111H34	109.20

These prices apply only to the United States

Electrical Contracting, July, 1931

Switches

Trumbull Electric Closed or Open Ends

Trumbull Electric Single Phase or DC Solid End Plate

Trumbull Electric For Meter Testing Open End

Trumbull Electric With Test Blades With and Without

Trumbull Electric With Test Blades With and Without

Trumbull Electric Without End Walls

3

#18422-2W Switch with 1-60 A., 250 V. & 2-30 A. 125 V. Branches.....	\$23.00
18422-4W Switch with 1-60 A., 250 V. & 4-30 A. 125 V. Branches.....	23.80

Trumbull Electric

Trumbull Single Throw, Quick Make & Break

Fusible	No Fuse
---------	---------

Trumbull Single Throw, Quick Make & Break

All 30 Amp. Porcelain Base

Westinghouse "WK-62" Quick Break

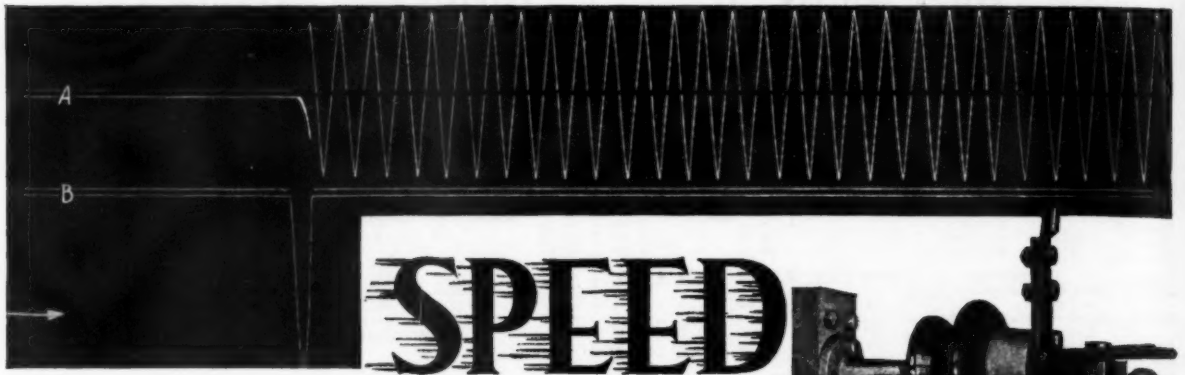
2 Blades—2 Fuses 3 Blades—2 Fuses

Westinghouse "WK-57" Meter Testing

Westinghouse "WK-54" Without End Walls

ACCESSIBLE FUSE TYPE

Electrical Contracting, July, 1931



When Speed is Needed

A FUSE has only one duty—to rupture the circuit with whatever speed may be necessary to protect the connected equipment.

That the Type EF-1 fuse disconnecting switch has the necessary speed when speed is needed is shown in the oscillogram. A 23,000-volt, 50-amp. fuse on a 22,000-volt, 60-cycle system interrupted an overcurrent with a total rms. value of 14,500 amperes in one-half cycle.

This fuse functions with a speed inversely proportionate to the existing overcurrent. It gives ample time for relay operation on the lower currents yet operates with extreme rapidity on short circuits. For five years, the EF-1 has given protection of this kind, and has earned a reputation which only consistently satisfactory operation could have justified.

Publication GEA-857B, which contains detailed information, will be gladly furnished by your nearest G-E office. General Electric Company, Schenectady, New York.

Join us in the General Electric program, broadcast every Saturday evening on a nation-wide N.B.C. network

GENERAL  ELECTRIC
SWITCHGEAR

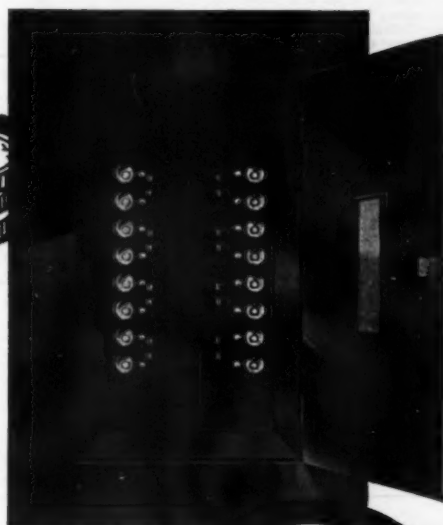
500-62

This year is one to profit... on real Values



Substantial worth has come into its own this year and FA Panelboards are going in on more jobs than ever. Carefully spent money insists on differentiating between FA and others.

Step along to good business this year by emphasizing the need of better wiring jobs and use the FA Panelboard as a "Sign of a Better Job" on the ones you do.



There is an FA man experienced to help you on panelboard and switchboard problems.



Frank Adam

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195 East Pearl St.

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18 Mary St.

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Amalgamated Elec.
Co., Ltd.,
1006 Mountain St.

PL-24

Switches

POLYPHASE METER SWITCHES				
Westinghouse "WK-54"—Sealed Main Fuses				
30 Amp.	#60266—3 Pole	230 Volt AC—Less End Wall	.....	\$11.00
60	60267—3	230	.....	16.70
100	60268—3	230	.....	26.30

Westinghouse "WK-65"—Accessible Fuses				
30 Amp.—Less End Walls	Meter Test	3Phase 4W-S.N. Non-Meter Test	.....
60	65100	\$11.00	65143	\$15.00
100	65101	20.20	65146	35.95
	65102	29.80	65141	46.45
			65105	28.05

METER TRIMS—END WALLS—TROUGHS				
For Meter Switches				
One Piece Meter Trims	.....	30 Amp. 60 & 100 Amp.	.....
Blank End Wall or Shutter Type End Wall	.....		
Shutter Type Meter Trim or Adapter Trim	.....		
New Universal Trim with Slide	.....		
Replacement Plate or Adapting Plate	.....		
Wiring Trough 2-3 & 4" long	.....		
Fuse Receptacle #R57252	.....			\$1.25

"TYPE C" INDUSTRIAL SWITCHES				
Westinghouse "WK-66"—Quick Make & Break				
250 V. DC—230 V. AC—Fusible	600 V. DC—575 V. AC—Fusible	.....	
30 Amp. 2 Pole	3 Pole	4 Pole	.....
60	66100	\$10.90	66101	\$12.70
100	66103	13.60	66104	18.15
200	66106	20.90	66107	27.25
	66109	36.30	66110	40.85
			66029	42.65
			66030	52.65
250 V. DC & 230 V. AC—Non-Fusible	230 & 575 V. AC—Non-Fusible	.....	
30 Amp. 2 Pole	3 Pole	4 Pole	.....
60	66047	\$9.55	66048	\$11.35
100	66047	13.60	66048	16.35
200	66059	28.15	66060	34.50

"TYPE C" INDUSTRIAL SWITCHES				
Westinghouse "WK-97"—Quick Make & Break				
250 V. DC—230 V. AC—Fusible	575 V. AC—Fusible	.....	
30 Amp. 2 Pole	3 Pole	4 Pole	.....
60	597103	\$8.15	597104	\$10.00
100	597106	12.70	597107	15.45
200	597109	19.95	597110	26.30
			597160	38.10
			62161	51.75
250 V. DC & 230 V. AC—Non-Fusible	575 V. AC—Non-Fusible	.....	
30 Amp. 2 Pole	3 Pole	4 Pole	.....
60	597010	\$5.00	597011	\$6.35
100	62013	8.15	597014	8.60
200	62016	10.90	597017	12.25
	62019	19.05	597020	22.70

ENTRANCE SWITCHES				
Noark Closed Ends				
Number	Amp.	Volt	Fuses	Blades
8283	30	125	1 Plug	1 Solid
8383	30	125	2	2 Fused
8393	30	125-250	2	2 Solid
8683	30	250	2 N.E.C.	2 Fused
8693	30	125-250	2	2 Solid
8136-1	60	125-250	2	2 Fused
8226-1	60	250	2	2 Solid
8131-1	100	125-250	2	2 Solid
8221-1	100	250	2	2 Fused

METER SERVICE SWITCHES				
Noark Sealed Service SECO Without End Walls				
Sealed Service	Amp.	Volt	Fuses	Blades
9903	30	125	1 Plug	1 Solid
9543	30	125	1	1
9553-9523	30	125-250	2	2
9563	30	125-250	2 N.E.C.	2
9533	30	125-250	2	2
9573	30	125	1	1
66576	60	230	1	1
66586	60	250	2	2
66536	60	125-250	2	2
66561-66571	100	250	1 or 2	1 or 2
66531	100	125-250	2	2

Noark Meter Service & Entrance ACCO Without End Walls				
Amps.	Fused For	Meter Service Test Type	Entrance Non Test	No. End Walls
30A	Plug	9343 \$3.55	9343 \$3.30	.....
30A	"	9353 4.00	9323 4.50	.....
30A	Enc.	9363 4.85	9333 4.85	.....
30A	"	9373 3.90	8373 3.90	.....
60A	"	66366 14.95	66336 15.80	.....
100A	"	66361 23.70	66331 25.45	.....

ACCO Entrance Range & Lighting Switch				
No. 66336RL4.. Range and Lighting Sw. 1-60A. 250V. and 4-30A. 125V.	.....		
Branches	.....			\$23.80
No. 66336RL6.. Range and Lighting Sw. 1-60A. 250V. and 6-30A. 125V.	.....		
Branches	.....			26.25
No. 30..... Meter Back Plate and Switch Support for above	.....			2.00

UNIVERSAL Meter Service Switches—No End Walls				
Number	Service Switch	Branch Circuits	Fuse in	2 Pole 3 Pole
971123	1	1	2	1
9723-972123	1	1	4	1
973333	1 or 2	1 or 2	1 or 2	4
9753-9793	1 or 2	1 or 2	2 or 4	4
975333-979333	1 or 2	1 or 2	2 or 4	4

Noark Doall Without End Plate				
Amps.	Fused For	Numbers	2 Pole	3 Pole
30A	Plug	913123-911123	\$2.95	912333-914333
30A	Enclosed	921223	3.30	922333-924333
60A	"	921226	8.40	925336
100A	"	921221	14.95	925331

"TYPE C" "NUBLADE"—Quick Break				
230 Volts Fusible				
Amp.	Number	Price	Number	Price
30	8223	\$2.70	8233	\$4.30
60	8226	8.15	8236	10.00
100	8221	12.70	8231	15.40
200	8222	19.95	8232	26.30
400	8224	49.00	8234	67.15

230 Volts Solid Neutral				
Amp.	Number	Price	Number	Price
30	8933	\$5.20	8943	\$10.00
60	All Solid	8936	10.00	8946
100	Switching Neutral	8931	15.40	8941
200		8932	26.30	8942
400		8934	67.15	8944

Non-Fusible				
30	250 V. DC-230-AC	230 Volts AC	230 Volts AC	
60	8723	\$2.75	8733	\$4.10
100	8726	8.15	8736	8.65
200	8721	10.80	8731	12.25
400	8722	19.05	8732	22.70
	8724	36.30	8734	47.20

Quick Break "TYPE C" "NUBLADE" 575 V.-AC				
575 Volts AC Fusible				
Amp.	Number	Price	Number	Price
30	8433	\$10.90	8443	\$18.15
60	8436	13.60	8446	19.95
100	8431	21.50	8441	36.30
200	8432	38.10	8442	51.75

ACCESSORIES FOR NOARK SWITCHES				
Single Piece End Wall for 30 Amp. Switches	.....			\$0.30
Shutter for 30	.....			0.15
Universal End Wall No. 909103	.....			1.40
Blanking Side No. 908103-908203	.....			15
Trough—3-4 & 5" & 4-6" & 4-5" & 7"	.....			50
Cabinet Fuse Block No. 902413	.....			1.25

POLYPHASE				
Meter Service and Entrance Switches				
125-250 Volts				
Main Entrance	.....		
"ACCO" QUAD	.....		
"DOALL"—3 WIRE Accessible Fuses	.....		
Amp. Number Price	.....		
30	851233	\$4.65	77033	\$10.40
60	851236	11.60	77036	18.45
100	851231	19.05	77031	27.20

SOLID NEUTRAL SWITCHES				
Noark Fusible—Quick Break				
Amps.	Volts	3 Pole-2 Poles	4 Pole-3 Poles	5 Pole-4 Poles
30	125-250	8133 \$3.20	8143 \$5.15	8153 \$12.70
60	"	8136 9.10	8146 11.35	8156 19.95
100	"	8131 14.50	8141 20.45	8151 35.85
200	"	8132 22.70	8142 31.75	8152 50.82
400	"	8134 63.55	8144 81.70	8154 111.00

BULLDOG SWITCHES				
Toggle Type—Quick Make & Break				
Cat. Number	Volts	Poles	Blades	Fuses
92211 & T-82211	125	2	1 Plug	Neutral
90211	125	2	2	2
90311	115	3	3	3
92311	125-250	3	2	2
91311	125-250	3	2	2
92221	250	2	1 Cart.	.....
90221	250	2	2	2
90321	230	3	3	3
91321	250	3	3	3
90351	575 A. C.	3	3	3
81321-81321U	230-460	3	3	3

"TYPE C" NON-INTERLOCKING				
Quick Make & Break				
Single Throw				
Amps.	250 Volts DC—230 Volts AC	575 Volts AC	.....
30 A. Porc. Base	50221S \$3.20	50321S \$5.15	.....
30 A. End Plates	50221P 3.20	50321P 5.15	.....
30 A. Slatt Base	50221 5.40	50351 \$10.90	50451 \$18.15	
60 A. " "	50222 8.20	50352 13.60	50452 20.00	
100 A. " "	50223 12.70	50353 21.80	50453 36.30	
200 A. " "	50224 20.00	50354 26.30	50454 51.75	
400 A. " "	50225 49.00	50355 67.15	.....

These prices apply only to the United States

Electrical Contracting, July, 1931

Switches

Switches

TYPE "C" NON-INTERLOCKING—Continued

Single Throw		Not Fusible		Type "C"	
Solid Neutral Blades Omitted		3 Pole 2 Blades 230 V.-AC & DC	4 Pole 3 Blades 115-230 V.-AC	5 Pole 4 Blades 115-230 V.-AC	
x 30 Amp. Type C	52311P	\$ 2.50			
30	52321P	3.20	52421	52521	\$ 12.75
60	52322	9.10	52422	52522	20.00
100	52323	14.60	52423	52523	36.00
200	52324	22.75	52424	52524	51.00
400	52325	63.75	52425	52525	122.00

xThis Switch for 125 Volts Ed. Plug Fusible.

30 AMP. SERVICE ENTRANCE SWITCHES

Bulldog—Not Meter Test

Cat. Number	Volt	Poles	Description	Price
100211S & P	125	2	Fusible—For Plug Fuses	\$1.65
104211S	125	2	—Quick Make & Break	2.75
100221S & P	250	2	—For Cartridge Fuses	2.50
103221S & P	250	2	Not	2.75
100311SP & 101311P	115	3	A.C. Plug Fuses	3.00
104311S	115	3	A.C. — Quick Make & Break	4.35

MAIN SERVICE
Meter Test Switches

Combining a Meter Test Switch with Range and Lighting Circuits					Price
Number	Amps.	Volt	Poles	Description	
721204	60	125-250	3	Solid — 1-60A & 4-30A	\$24.10
721206	60	125-250	3	— 1-60A & 6-30A	28.50
431101				Meter Mounting Plate and Cabinet Support	1.10
412112				End Plate	.30

"TYPE A"

Bulldog Single Throw Quick Make and Break

250 V. DC & 230 V. AC Fusible		2 Pole	3 Pole	4 Pole	
Amps.		No.	No.	No.	Price
30 Amp.	10221	\$10.90	10321	10421	\$16.35
60 Amp.	10222	13.60	10322	10422	21.80
100	10223	20.90	10323	10423	36.30
200	10224	36.30	10324	10424	54.45
400	10225	68.10	10325	10425	107.25

575 Volts—AC Fusible		2 Pole	3 Pole	4 Pole	
Amps.		No.	No.	No.	Price
30 Amp.	10261	\$16.35	10351	10451	\$24.50
60	10262	17.25	10352	10452	26.30
100	10263	27.25	10353	10453	41.75
200	10264	42.65	10354	10454	63.50
400	10265	90.75	10355	10455	128.00

Not Fusible		2 Pole	3 Pole	4 Pole	
Amps.		No.	No.	No.	Price
30 Amp.	13221	\$11.80	13351	13451	\$16.35
60	13222	19.95	13352	13452	21.80
100	13223	25.40	13353	13453	31.75
200	13224	54.45	13354	13454	46.30
400	13225	82.50	13355	13455	107.25

Not Fusible		2 Pole	3 Pole	4 Pole	
Amps.		No.	No.	No.	Price
30-60 Amp.	13262	\$12.70			
100	13263	20.40			
200	13264	27.65			
400	13265	66.25			

COMPENSATOR SWITCHES

Bulldog Quick Make & Break Fusible

Amps.		230 Volt AC		4 Pole	
		3 Pole			Price
30 A.	30321	\$15.35	30421		\$ 21.80
60 A.	30322	17.45	30422		26.30
100 A.	30323	28.15	30423		47.20
200 A.	30324	47.90	30424		65.55
400 A.	30325	76.25	30425		118.90

Amps.		575 Volts AC Arc Chokers		4 Pole	
		3 Pole			Price
30 A.	30351	\$18.35			
60 A.	30352	19.25			
100 A.	30353	29.95			
200 A.	30354	50.85			
400 A.	30355	81.70			

MOTOR STARTERS

Bulldog

30 Amp.—Type A—230 Volts AC		3 Pole	4 Pole	
		No.	No.	Price
30	40321	\$16.35	40421	\$22.70
60	40322	22.70	40422	31.75
100	40341	22.70	40441	31.75
200	40342	32.70		

NOTE: For Bulldog Switches not listed deduct 10% from Bulldog Lists.

SMALL ENTRANCE SWITCHES

Columbia, 30 Amp.

Description		2 Pole	
		No.	Price
Single Fused Single Blade—125 Volt—Plug Fused		320-321	\$1.60
Double " " " " " "	125	1090	1.25
" " " " " "	250	333	1.90
" " " " " "	250	332	2.35
" " " " " "	250	422	2.50

Description		3 Pole	
		No.	Price
Single Fused—Single Blade—125 Volt—Plug Fused		1091-3	\$2.15
Double " " " " " "	125	333-2	2.45
" " " " " "	250	333	4.00
" " " " " "	250	423	4.40

ENTRANCE SWITCHES

Range and Lighting Columbia 3 Pole 125-250 Volt

Cat. No.	Amps.	Branches	Price
3531	60	1-30A-1-60A. 250V. N. E. C. Fused & 2-30A. Plug Fused	\$34.60
3532	60	1-30A-1-60A. 250 V. " " " " " " " " " " " "	35.40
3533	60	1-30A-1-60A. 250 V. " " " " " " " " " " " "	38.60

BRANCH CIRCUIT ENTRANCE SWITCHES

Columbia

30 Amp. Series		2 Pole	3 Pole	4 Pole	5 Pole	6 Pole	7 Pole	8 Pole
		No.	No.	No.	No.	No.	No.	No.
2401 to 2406		\$3.90	\$4.90	\$5.20	\$5.55	\$6.20	\$6.50	\$7.15
3401 to 3406		4.90	6.20	6.50	7.15	8.45	8.45	9.50
3501 to 3506		4.75	5.85	6.20	6.90	7.50	7.50	8.45

Series 30—Quick Break—250 Volts for Meter Trims
For Cartridge Fuses

	30 Amp.		60 Amp.		100 Amp.		200 Amp.	
2 Pole.....	3022	\$5.55	3025	\$ 8.75	3028	\$12.50	3031	\$18.20
3 Pole.....	3023	7.50	3026	10.00	3029	16.15	3032	24.05

INDUSTRIAL SWITCHES

Columbia

Series 70 Type C Fusible

Amps		2 Pole	3 Pole	
		No.	No.	Price
30A	C7001	\$ 9.30	C7002	\$11.30
60A	C7004	12.00	C7005	15.50
100A	C7007	18.85	C7008	23.65
200A	C7010	27.95	C7011	34.65

Series 70 Type A Fusible

Amps		2 Pole	3 Pole	
		No.	No.	Price
30A	A7001	10.30	A7002	\$12.85
60A	A7004	13.10	A7005	17.30
100A	A7007	21.45	A7008	27.50
200A	A7010	30.50	A7011	38.55

Series 71-500 Volts Fusible

Amps		2 Pole	3 Pole	
		No.	No.	Price
30A	7101	\$13.60	7102	\$15.50
60A	7104	14.00	7105	16.00
100A	7107	23.50	7108	26.65
200A	7110	37.70	7111	42.25

Series 73-500 Volts Unfused

Amps		2 Pole	3 Pole	
		No.	No.	Price
30A	7301	\$10.80	7302	\$12.70
60A	7304	10.80	7305	13.25
100A	7307	17.15	7308	19.20
200A	7310	23.65	7311	28.45

Series 72-600 Volts Fusible

Amps		2 Pole	3 Pole	
		No.	No.	Price
30A	7201	\$14.60	7202	\$16.05
60A	7204	14.60	7205	16.60
100A	7207	24.10	7208	27.15
200A	7210	38.60	7211	42.50

Series 74-600 Volts Unfused

Amps		2 Pole	3 Pole	
		No.	No.	Price
30A	7401	\$11.70	7402	\$14.85
60A	7404	12.45	7405	14.95
100A	7407	18.90	7408	21.45
200A	7410	25.15	7411	29.25

Series 20-250 Volts Fusible

Amps		2 Pole	3 Pole	
		No.	No.	Price
30A	2022	\$ 5.10	2023	\$ 6.85
60A	2025	6.85	2026	7.90
100A	2028	10.85	2029	13.35
200A	2031	19.10	2032	23.85

Series 23-250-500 Volts Unfused

Amps		2 Pole	3 Pole	
		No.	No.	Price
30A	2322	\$ 4.75	2323	\$ 6.25
60A	2325	8.95	2326	9.55
100A	2328	11.35	2329	12.55
200A	2331	19.10	2332	23.40

MOTOR STARTING SWITCHES

Columbia, 250 Volts

30 Amp. Motor Start Switch		2 Pole	3 Pole	
		No.	No.	Price
60	6001	\$12.50	6002	\$16.70
	6004	13.10	6005	17.25

30 Amp. Motor Start Switch		4 Pole	
		No.	Price
60	6003	\$19.65	
	6004	26.80	

Wadsworth Switches

MAIN ENTRANCE SWITCHES

Single Phase and D. C.		Accessable Fuses		Price	
Number	Amps.	Volts	Poles	Blades	Fuses
1450-1250	30	125	2	1	1 Plug
1402-1202	30	125	2	2	2 " "
1403-1203	30	125-250	3	2	2 " "
2250	30	125	2	1	1 NEC
2202	50	250	2	2	2 " "
2203	30	125-250	3	2	2 " "
1800	60	125	2	1	1 " "
1802	60	125 or 250	2	2	2 " "
1803	60	125-250	3	2	2 " "
1900	100	125	2	1	1 " "
1902	100	125 or 250	2	2	2 " "
1903	100	125-250	3	2	2 " "
4803	200	125-250	3	2	2 " "
4803	400	125-250	3	2	2 " "

These prices apply only to the United States

Wadsworth Switches—Continued

MAIN ENTRANCE SWITCHES—Continued									
POLYPHASE									
Single Phase and D. C. Number	Amps.	Volts	Poles	Blades	Fuses	Neutral	Accessible Fuses	Price	
2230	30	250	3	3	3 NEC	None	None	\$10.40	
1830	60	250	3	3	3			19.10	
1930	100	250	3	3	3			28.70	
4650	200	250	3	3	3			44.50	

METER SERVICE SWITCHES									
POLYPHASE									
Single Phase and D. C. Number	Amps.	Volts	Poles	Blades	Fuses	Neutral	Accessible Fuses	Price	
1451	30	125	2	1	1 Plug	Solid	None	\$ 3.80	
1412-1212	30	125	2	2	2		None	4.25	
1423-1223	30	125-250	3	2	2		Solid	4.75	
2251	30	125	2	1	1 NEC			4.15	
2212-2223	30	125 or 250	2 & 3	2	2		None & Solid	5.05	
1851	60	125	2	1	1		Solid	14.75	
1812-1842	60	125 or 250	2	2	2		None	15.65	
1843	60	125-250	3	2	2		Solid	16.50	
1951	100	125	2	1	1			24.35	
1912-1942	100	125 or 250	2	2	2		None	24.35	
1943	100	125-250	3	2	2		Solid	26.10	
4643	200	125-250	3	2	2			51.75	
4843	400	125-250	3	2	2			109.15	

POLYPHASE									
Single Phase and D. C. Number	Amps.	Volts	Poles	Blades	Fuses	Neutral	Accessible Fuses	Price	
2234	30	250	3	3	3 NEC	None	None	\$11.25	
1834	60	250	3	3	3			20.85	
1934	100	250	3	3	3			30.45	
4634	200	250	3	3	3			60.65	

METER SERVICE SWITCH—Range and Lighting Circuits									
No. 1843-5	Accessible Fuse 60 Amp. 125-250 Volt—Branches 2-60 Amp. NEC Fused & 4-30 Amp. Plug Fused							\$23.65	
No. MB-4	Metal Meter Board Only for Above							2.25	

CHANNEL BANKING TYPE									
All 30 Amp.									
Volts	Poles	Blades	Fuses	Neutral	Access. Fuses	Price	No Test	Meter Service & Main Entrance	
125	2	1	1 Plug	Solid	1451T	\$4.25	1450T	\$ 4.05	
125-250	3	2	2		1423T	5.20	1403T	4.55	
125	2	1	1		1412T	4.70	1402T	4.35	
125	2	1	1 NEC	Solid	2251T	4.55	2250T	4.60	
250	2	2	2		2212T	5.55	2202T	5.25	
125-250	3	2	2		2223T	5.55	2203T	5.25	

METER SERVICE SWITCHES									
Single Phase and D. C. Number									
Amps.	Volts	Poles	Blades	Fuses	Neutral	Sealed Fuses	Price		
162	60	250	2	2	2 NEC	None	\$ 9.15		
161	60	125-250	3	2	2	Solid	9.55		
112	100	250	2	2	2	None	15.65		
111	100	125-250	3	2	2	Solid	16.50		

SERVICE FUSES DEAD WITH SWITCH OPEN									
Single Phase and D. C. Number	Amps.	Volts	Poles	Blades	Fuses	Neutral	Sealed Fuses	Price	
38	30	125	2	1	1 Plug	Solid		\$ 2.65	
238	30	125	2	1	1			4.00	
X360	30	125	2	1	1			3.45	
X362	30	125	2	1	1			4.45	
272	30	125	2	2	2	None		4.30	
271-292	30	125-250	3	2	2	Solid		4.30	
2351	30	125	2	1	1 NEC			4.05	
2312	30	250	2	2	2	None		4.35	
2323	30	250	2	2	2	Solid		4.55	
2051	60	125	2	1	1			12.60	
2042	60	125 or 250	2	2	2	None		13.50	
2043	60	125-250	3	2	2	Solid		14.35	
2151	100	125	2	1	1	Solid		21.75	
2142	100	125 or 250	2	2	2	None		21.75	
2143	100	125-250	3	2	2	Solid		23.45	
4743	200	125-250	3	2	2			44.45	
4943	400	125-250	3	2	2	None		101.00	

POLYPHASE									
Single Phase and D. C. Number	Amps.	Volts	Poles	Blades	Fuses	Neutral	Sealed Fuses	Price	
2334	30	250	3	3	3 NEC	None		\$ 9.85	
2034	60	250	3	3	3			17.40	
2134	100	250	3	3	3			26.95	
4734	200	250	3	3	3			49.75	
4934	400	250	3	3	3			113.00	

MAIN ENTRANCE SWITCHES									
Single Phase and D. C. Number									
Amps.	Volts	Poles	Blades	Fuses	Neutral	Sealed Fuses	Price		
172	60	250	2	2	2 NEC	None	\$ 9.15		
171	60	125-250	3	2	2	Solid	9.30		
102	100	250	2	2	2	None	15.65		
110	100	125-250	3	2	2	Solid	16.50		

POLYPHASE									
Single Phase and D. C. Number	Amps.	Volts	Poles	Blades	Fuses	Neutral	Sealed Fuses	Price	
2330	30	250	3	3	3 NEC	None		\$ 9.15	
2030	60	250	3	3	3			15.60	
2130	100	250	3	3	3			25.15	

INDUSTRIAL TYPE SWITCHES									
250 Volts									
Amps.	Poles	Blades	Fuses	Access. Fuses	Sealed Fuses	Quick Make & Break	Price		
30	2	2	2	9532	\$13.65	8532	\$ 8.45		
30	3	3	3	9533	15.50	8533	9.75		
60	2	2	2	9562	14.65	8562	8.90		
60	3	3	3	9563	18.55	8563	10.20		
100	2	2	2	9512	25.00	8512	12.45		
100	3	3	3	9513	28.80	8513	15.55		

OUTDOOR METER SERVICE SWITCHES									
30 Amp. 3 Pole Solid Neutral Outdoor or Weatherproof								\$15.10	
60								20.40	
100								41.25	

EXTRA END WALLS—SHUTTERS—TRIMS—ETC.									
Wadsworth									
Type of Trim									
For 30 Amp. 125 Volt Switches	Flat	Extended	Shutter	Knock-Meter out & Shutter	Shutter ter	Price			
" 30 " 250 " 2	.50	.65	.50	.35	.50	\$.30	\$.17		
" 60 " 250 " 2 Pole	.65	.83	.65	.45	.65				
" 60 " 250 " 3	.75	.90	.75	.50	.75				
" 100 " 250 " 2	.82	1.00	.82	.45	.82				
" 100 " 250 " 3	.90	1.10	.90	.50	.90				
" 200 " 250 " 2	1.00	1.15	1.00	.50	1.00				
" 200 " 250 " 3	1.10	1.25	1.10	.55	1.10				

Murray Switches

ENTRANCE SWITCHES									
30 Amp. Number	Volts	Description	With End Walls	2 Pole	3 Pole				
630	125	1 Blade—1 Plug Fuse S. N.		\$1.60	\$2.40				
231-230	125-250	2 " 2 "		1.70	2.40				
641-2-6	125	For 1 HP—250 V.—AC & DC Motors		1.80					
643	230	3 Blades 3 Cartridge Fuses		3.20					
647	125-250	2 " 2 " S. N.		2.50					
830	125-250	2 " 2 " Sealed Fuses S. N.		4.00					
831	125-250	2 " 2 Plug Sealed Fuses S. N.		2.25					

ACCESSIBLE MAIN FUSE TYPE AA									
Without End Walls									
Amps.	Poles	Fused for	Neutral	No.	Price	No.	Price		
30	2	1 Plug	Fused	755	\$3.25	754	\$3.05		
30	2	1 Cart.		738	4.20	740	3.60		
30	2	2 Plug		748	3.70	752	3.35		
30	2	2 Plug		737	4.50	757	4.25		
30	3	2 Plug	Solid	756	4.20	753	3.70		
30	3	2 Cart.		742	4.45	758	4.25		
30	3	1 Plug	Fused	776	3.25	774	3.05		
30	3	2 Plug	Solid	775	4.20	779	3.70		
30	3	2 Cart.		777	4.45	778	4.25		
60	2	1 Cart.	Fused	766	14.20	773	15.05		
60	2	2 Cart.		764	15.05	762	14.20		
60	3	2 Cart.	Solid	765	15.95	763	15.05		
100	2	2 Cart.	Fused	709	23.85	708	22.10		
100	2	2 Cart.		718	23.85	716	23.00		
100	3	2 Cart.	Solid	719	25.60	717	23.85		

POLYPHASE ENTRANCE & SERVICE									
Without End Walls									
Entrance Amps.	No.	Description	3 Wire	4 Wire	Price				
30	790-2	Three Legs Fused	\$11.00	\$11.60					
60	760-9	Four Wire Solid Neutral	19.40	20.00					
100	710-12	All 3 Pole 3 Phase	29.05	29.95					
200	720-22		44.55	51.85					
Service									

Switches

Tape

Diamond E Switches

SMALL ENTRANCE SWITCHES, 30 AMPS.

Volts	For Fuses	Description	2 Pole	3 Pole
125	Plug	All Fused	P-2 \$1.65	P-3 \$2.75
125	Plug	Ground Neutral	P-2S 1.65	P-3S 2.25
250	Cartridge	All Fused	C-2 2.25	C-3 4.00
250	Cartridge	Ground Neutral	C-2S	C-3S 2.90

ALL-N-ONE SWITCHES

Live Front	Double Fuse	Dead Front	Single Fuse
No.	Circuits	No.	Circuits
A-2	2	AD-3	3
A-3	3	AD-4	4
A-5	5	AD-5	5
A-7	7	AD-6	6
A-9	9	AD-8	8
		AD-10	10

RANGE & WATER HEATER SWITCHES

60 Amp.—125 Volts

No. 501	No. 502	No. 503	No. 504	No. 505	No. 506	No. 507
\$9.90	\$15.25	\$23.60	\$26.75	\$20.25	\$8.90	\$13.90

MOTOR STARTING SWITCHES

MS-1 30 Amp. 3 Pole 220 Volts Quick Make & Break Toggle.....	\$6.00
C-3P 30 Amp. 3 Pole 250 Volts Not Toggle.....	7.10

SAFE LINE SERVICE SWITCHES

No. 904 Single Pole 4 Circuits with Transformer.....	\$7.85
" " " " " without Transformer.....	6.60

INDUSTRIAL TYPE

Quick Break—Single Throw—Fused Bottom

Amp.	No.	Price	No.	Price	No.	Price
30	3022	\$ 4.40	3032	\$ 6.75	3042	\$ 7.90
60	6022	8.10	6032	9.00	6042	11.65
100	10022	11.65	10032	13.30	10042	24.10
200	20022	18.25	20032	24.10	20042	39.75
400	40022	44.85	40032	61.50	40042	87.20
600	60022	78.00	60032	91.30	60042	131.10

Amp.	No.	Price	No.	Price	No.	Price
30	3025	\$ 9.00	3035	\$ 8.55	3045	\$ 12.45
60	6025	9.90	6035	10.80	6045	13.30
100	10025	13.30	10035	15.80	10045	25.60
200	20025	28.60	20035	30.00	20045	43.20
400	40025	68.00	40035	74.70	40045	116.20
600	60025	96.30	60035	103.00	60045	167.70

Amps.	30 Amp.	60 Amp.	100 Amp.	200 Amp.
Number.....	3026	6026	10026	20026
Price.....	\$15.30	\$15.80	\$25.00	\$38.60

Not Fused—Quick Break

Amps.	Pole	Volts	Number	Price	Number	Price
30	2	250 DC	3022N	\$ 5.00	3022DN	\$ 10.80
30	3	250 DC	3032N	6.30	3032DN	12.45
30	3	500 AC	3025N	8.65	3025DN	13.15
30	3	500 AC	3035N	8.10	3035DN	16.60
60	2	250-500	6025N	8.10	6025DN	13.15
60	3	250-500	6035N	8.55	6035DN	16.60
100	2	250-500	10025N	11.50	10025DN	24.90
100	3	250-500	10035N	11.25	10035DN	30.70
200	2	250-500	20025N	17.00	20025DN	34.85
200	3	250-500	20035N	20.75	20035DN	50.60
400	2	250-500	40025N	49.80	40025DN	99.60
400	3	250-500	40035N	58.00	40035DN	132.80
600	2	250-500	60025N	83.00	60025DN	141.00
600	3	250-500	60035N	90.60	60035DN	163.50

S-SUNDRIES

WOOD SCREWS—Flat Head

Size	Price Per Doz.	Size	Price Per Doz.	Size	Price Per Doz.
1/4"x6 & Smaller.....	\$.05	1 1/4"x12.....	\$.07	2 1/4"x10.....	\$.08
1/4"x8.....	.05	1 1/4"x6.....	.07	2 1/4"x12.....	.09
1/4"x6.....	.05	1 1/4"x8.....	.07	2 1/4"x6.....	.07
1/4"x8.....	.05	1 1/4"x10.....	.07	2 1/4"x8.....	.08
1/4"x6.....	.05	1 1/4"x12.....	.07	2 1/4"x10.....	.09
1/4"x8.....	.05	2"x6.....	.07	2 1/4"x12.....	.10
1/4"x10.....	.05	2"x8.....	.08	3"x8.....	.09
1/4"x12.....	.05	2"x10.....	.08	3"x10.....	.10
1/4"x6.....	.06	2"x12.....	.09	3"x12.....	.13
1/4"x8.....	.06	2 1/4"x6.....	.07	3"x14.....	.15
1/4"x10.....	.07	2 1/4"x8.....	.07		

NOTE—For Round Head Wood Screws Add 30% to above prices.

MACHINE SCREWS—Round or Flat Head

Size	Price per Dozen	Size	Price per Dozen
1/4"x1/4.....	\$.05	10/24 x 1/4.....	\$.06
1/4"x3/8.....	.05	10/24 x 1.....	.06
1/4"x1/2.....	.05	10/24 x 1 1/4.....	.06
1/4"x3/4.....	.05	10/24 x 1 1/2.....	.07
1/4"x1.....	.05	1/4 x 20.....	.08
1/4"x1 1/4.....	.05	1/4 x 20-1.....	.09
1/4"x1 1/2.....	.05	1/4 x 20-1 1/4.....	.10
1/4"x1 3/4.....	.05	1/4 x 20-1 1/2.....	.12

NOTE—For Machine Screws with Fillister Head add 25% to above prices.

LAG SCREWS
Square Heads or Coach Screws

Length	2"	2 1/2"	3"	3 1/2"	4"	4 1/2"	5"	6"
1/4 Black.....	\$.03	\$.03	\$.04	\$.04	\$.04	\$.04	\$.04	\$.05
1/2 Black.....	.03	.04	.04	.04	.05	.05	.05	.06
3/4 Black.....	.04	.04	.05	.05	.06	.06	.07	.07
1 Black.....	.05	.05	.06	.07	.07	.07	.08	.09
1 1/4 Galv.....	.03	.03	.04	.04	.04	.04	.04	.04
1 1/2 Galv.....	.04	.04	.04	.04	.05	.05	.06	.06
2 Galv.....	.06	.06	.07	.07	.08	.08	.09	.10

STRAPS—CLIPS OR CLAMPS

Without Screws	Price Each	1"	1 1/2"
Galvanized Straps, 2 Hole.....	\$.01	\$.01	\$.01
(Per Pound \$.20) No. Straps per Lb.....	45	40	25
Light Steel Straps, 1 Hole.....	.04	.05	.06
Mail. Iron Clamps, 1 Hole.....	.06	.07	.08
P & S Conduit Clamps with Bolts.....	.10	.14	.18
Series 1400.....	.10	.14	.20

Without Screws	Price Each	1 1/2"	2"	2 1/2"	3"
Galvanized Straps, 2 Hole.....	\$.02	\$.04	\$.05	\$.06	
(Per Pound \$.20) No. Straps per Lb.....	12	7	5	4	
Light Steel Straps, 1 Hole.....	.25	.45	.65	.85	
P & S Conduit Clamps with Bolts.....	.25				

SOLDER

40-60	50-50	Resin or Acid	Ribbon	Allen
Bar or Wire	Bar or Wire	Core	30-70	Alumi-Flex
Per Pound.....	\$.65	\$.70	\$.85	\$.75
Per Ounce.....	.05	.05	.08	.16

SOLDER PASTE

Make	2 oz. Cans	2 oz. Tubes	4 oz. Cans	Half Pound Cans	One Pound Cans
Allen.....	\$.25	\$.40	\$.50	\$.70	\$ 1.25
Burnley.....	.20	.30	.40	.65	1.00
Crescent.....	.25	.40	.65	.90	1.50
G. E.....	.25	.40	.65	.90	1.65
Highland.....	.25	.40	.65	.90	1.50
Nokorode.....	.25	.40	.65	.90	1.00
Star.....	.25	.40	.65	.90	1.00

SOLDERING SALTS

Make	1/2 Lb.	1 Lb.
Burnley.....	\$.40	\$.75
Yager.....	.75	1.00
McGill Crescent.....	.85	1.00
Nokorode.....	.75	1.00
Allen.....	.75	1.00

SOLDER STICKS

Make	Price
Burnley.....	\$.25
Samson.....	.30
Allen.....	.40
Crescent.....	.25
GE.....	.25
Star.....	.25

FIXTURE STUDS

Four Prong Fixture Studs Less Bolts.....	1/4"	1/2"
Bolt Extra.....	\$.10	\$.15
No Bolt Fixture Studs.....	.01	.01

STAPLES

Staples Insulated Nails Per Dozen.....	\$.05
Leather Nail Heads Per Dozen.....	.05
Milonite Insulated Nails Per Dozen.....	.05

TAPE

FRICTION TAPE

	Per Half Lb. Roll	Per 2 Ounce Roll	Per 1 Ounce Roll	Per Foot
Amazon Friction.....	\$.35	\$.10	\$.05	\$.01
Adhere.....	.30	.10	.05	.01
Bulldog.....	.40	.10	.05	.01
Clifton.....	.35	.10	.05	.01
Dutch Brand.....	.35	.10	.05	.01
G. E. 361.....	.30	.10	.05	.01
Grimshaw.....	1.00	.25	.15	.03
High Test (Firestone).....	.30	.10	.05	.01
Hold Fast (Firestone).....	.25	.10	.05	.01
Hold Fast Friction.....	.50	.15	.10	.02
Holdite U. S. ....	.30	.10	.05	.01
Johns Manville.....	.90	.20	.10	.02
" " Jomanco.....	.55	.15	.10	.02
" " White.....	.70	.20	.10	.02
" " No. 3 Now No. 5.....	.30	.10	.05	.01
" " No. 6 " 40.....	.25	.10	.05	.01
Manson.....	.60	.15	.10	.02
O. K. B.....	.30	.10	.05	.01
P. & B.....	.35	.10	.05	.01
Paragon.....	.85	.20	.10	.02
Security.....	.25	.10	.05	.01

RUBBER TAPE

	Per Half Lb. Roll	Per 2 Ounce Roll	Per 1 Ounce Roll	Per Foot
Akron (Firestone).....	\$.30	\$.10	\$.05	\$.03
Amazon Rubber.....	.50	.15	.10	.04
Alpha.....	.50	.15	.10	.04
Clifton.....	.35	.10	.05	.03
Dutch Brand.....	.35	.10	.05	.03
G. E. 362.....	.30	.10	.05	.03
Holdfast.....	.50	.15	.10	.04
Imperial.....	.30	.10	.05	.03
Okonite.....	.75	.20	.10	.04
Relio U. S. ....	.25	.10	.05	.03
Security.....	.30	.10	.05	.03
U. S. Rubber.....	.35	.10	.05	.03
Twin Tape Rubber & Friction.....	.40	.10	.05	.03
USCO Westinghouse.....	.50	.15	.10	.04

These prices apply only to the United States

COUCH TELEPHONES

VESTIBULE TYPE

No. 74 Armored Cord Receiver Type.....	\$25.00
No. 74A Swing Arm Receiver Type.....	\$7.30
No. 74C Cordless Loud Speaker Type.....	\$0.75
Above prices are for telephones complete but do not include for any call buttons.	
Add for buttons—Janitor Calling Buttons if fitted.....	\$.95
Add for Each Suite Calling Button.....	.95

SUITE TELEPHONES

Series 2809 to 2849 or 1909 to 49	Page 22 Bulletin No. 89 S. H. Couch Co.
Number of Buttons.....	2 3
Price Ea. Surface or Flush	\$11.40 \$11.40 \$12.45 \$13.60

TELEPHONE CABLES

Number of Conductors	Braided Type "B"	Lead Covered Type "L"
8	B-8 \$.14	L-8 \$.18
12	B-12 \$.15 1/2	L-12 \$.21
16	B-16 \$.18	L-16 \$.27
21	B-21 \$.22	L-21 \$.29
25	B-25 \$.24	L-25 \$.32
31	B-31 \$.27	L-31 \$.39
37	B-37 \$.30	L-37 \$.44

EDWARDS TELEPHONES

Vestibule Type

No. 321 and 397 Armored Cord Receiver Type.....	\$25.00
No. 322 and 396 Cordless Loud Speaker.....	\$0.75
Above prices are for telephones complete but do not include any call buttons.	
Add for each Call Button.....	3.25
" " " Mail Box.....	3.25

Apartment Telephones

No. 3322 and 3352 Surface Wall Type Watch Case Receiver.....	\$12.50
No. 3332 and 3362 " " " Long Hand ".....	16.75
No. 3342 and 3372 Flush " " " ".....	12.50
Above prices are for telephones complete with two push buttons—Add \$1.10 for 3 Buttons.	

TIME SWITCHES

ACE TIME SWITCHES—SELF WOUND

All AC or DC	Sgl. or Dble. Pole	100 to 130 Volts—Up to 60 Cycle
On and Off Types	No. 35 \$45.00	No. E4 \$47.50
	No. E6 \$50.00	
	All Dble. Pole—20 Amp.—125 Volts Each Circuit	
Two Circuit Types	A2, B2, C2, E2, G2.....	\$45.00

GENERAL ELECTRIC TIME SWITCHES

Type	Cat No.	115 V. Price	230 V. Price
T-8C1.....	34x979 to 984.....	\$22.00	\$23.00
T-8C3.....	34x985 to 990.....	22.00	23.00
T-8C4.....	34x991 to 996.....	22.00	23.00
TYPE T-9—Dble. Pole			
20 Amp. In or Outdoor Service			
60 and 50 Cycle..	10x637-40.....	40.00	41.00
40 and 25 " "	10x641-44.....	40.00	41.00
Extra for Cutouts.....		4.00	4.00

HARTFORD TIME SWITCHES

Type	Wound Capacity	Description	Price
E	Elec. 60 Amp.	Double Pole.....	\$32.00
H	Hand 60 "	" " " ".....	24.00
EW	Elec. 60 "	Same as Type E & H on a Mounting Plate in	42.00
HW	Hand 60 "	Weatherproof Box.....	34.00
EO	Elec. 60 "	" " " ".....	38.00
HO	Hand 60 "	" " " ".....	30.00
EOW	Elec. 60 "	With Automatic Cutout for omitting operation on Sunday or any days desired.....	48.00
HOW	Hand 60 "	" " " ".....	40.00
ET	Elec. 60 "	" " " ".....	35.00
HT	Hand 60 "	" " " ".....	27.00
ETW	Elec. 60 "	Equipped for Four Operations per day, Two "Ons" and Two "Offs" in 24 hours.....	45.00
HTW	Hand 60 "	" " " ".....	37.00
ETO	Elec. 60 "	With automatic day cutout and four operations per day.....	42.00
HTO	Hand 60 "	" " " ".....	34.00
EM	Elec. 30 "	" " " ".....	38.00
HM	Hand 30 "	" " " ".....	30.00
EMW	Elec. 30 "	Single Pole, Double Throw, for operating large open circuit switches.....	48.00
HMW	Hand 30 "	" " " ".....	40.00
EC	Elec. 30 "	" " " ".....	35.00
HC	Hand 30 "	" " " ".....	27.00
ECW	Elec. 30 "	Single Pole, with special contact for connecting automatic electric time motor.....	45.00
HCW	Hand 30 "	" " " ".....	37.00

E—Electrically Wound W—In Weatherproof Box
M—Single Pole, Double Throw H—Hand Wound
O—With Automatic Day Cutout T—For Four Operations per Day.

RELIANCE & RACINE SWITCHES

	10 Amp.	20 Amp.	30 Amp.	50 Amp.
Racine Type 1R-2R.....	\$19.50	\$23.00		
Reliance Type 10-20-30-50.....	28.00	30.00	\$32.00	\$36.00
Reliance Type 15 Triple Pole.....		32.00		
Apartment House Types A-B-C-D-E-F-G 30.00		30.00		

SANGAMO TIME SWITCHES

Type	No. Poles	115V. AC Throw	230V. AC Amp.	115V. DC Amp.	230V. DC Amp.
TCor TM-11 Sgle.	20	\$50.00	15	\$50.00	15
TC - TM-12 " Dble.	20	53.00	15	53.00	15
TC - TM-21 Dble.	20	56.00	15	56.00	15
TC - TM-22 " Dble.	20/5	59.00	15/5	59.00	15/5
TM-31 Triple Sgle.	5	62.00	5	62.00	5
TM-32 " Dble.	5	65.00	5	65.00	5

TORK TIME SWITCHES OR CLOCKS

Description	Indoor	Outdoor	Switchboard
Single Pole 15 Amp. 125 Volt	\$115H \$20.00	\$215H \$27.50	\$015H \$17.50
Double " 30 " 250 "	\$130H 25.00	\$230H 32.50	\$030H 22.50
Single " Double Throw	\$166H 25.00	\$266H 32.50	\$066H 22.50

Contactor and Clock Combination

\$76062H- 60 Amp. 2 Pole AC \$50.00	\$75062H- 60 Amp. 2 Pole DC \$70.00
\$76102H-100 " " AC 75.00	\$75102H-100 " " DC 125.00

ZENITH TIME SWITCHES

8 Day Automatic Time Switch

Max. Amp.	Max. Volt	Poles	Operation	Closed Face Cat.	Open Face Cat.
10	220	Dble.	On-Off.....	1101 \$20.00	1151 \$22.00
20	220	"	" ".....	1102 23.00	1152 25.00
30	220	Triple	" ".....	1103 25.00	1153 27.00
50	220	"	" ".....	1105 32.00	1155 34.00
20	110	Sgle. Cir. 1 on-2 on-both off	" ".....	110A 28.00	115A 28.00
20	110	" Both on-1 off 2	" ".....	110B 26.00	115B 28.00
x20	220	Dble.	" -1 -2 -2	110B2 30.00	115B2 32.00
20	110	Sgle. Cir. 1 on-2 on-1 off-2	" ".....	110C 26.00	115C 28.00
20	110	" 1 -2 -2 -2 -1	" ".....	110G 26.00	115G 28.00
x20	220	Dble.	" 1 -2 -2 -2 -1	110G2 30.00	115G2 32.00
10	220	Sgle. Momentary Contact.....	" ".....	110MC 25.00	115MC 27.00

Description	6 Amp. DC	10 Amp. AC	6 Amp. DC	10 Amp. AC
Electric Wound Sw.....	\$59.00	\$54.00	\$54.00	\$79.00
All 220 Volts AC				
Complete with Sw.				
Remote Control Switch..	60 A. \$36.00	100 A. \$40.00	200 A. \$75.00	60 A. \$68.00
(Momentary Contact)				100 A. \$72.00
				200 A. \$109.00

TRANSFORMERS

BELL & TOY TRANSFORMERS

				50 to 133	25 to 40		
Name	Style	Watt	Secondary Volts	Cycle		Cycle	
				No.	Price	No.	Price
ED- WARDS	Steel Clad Bell	25	Single	86	\$ 1.25	86	\$ 1.45
	" " "	25	Three	86T	1.55	86T	1.75
	Porcelain Bell	25	Single	87	1.55	87	1.75
	Out. Box Bell	25	"	86ER	1.55	86ER	1.75
	Heavy Duty	50	8-16-24	88	4.25	88	4.65
	" " "	75	"	89	6.40	89	7.00
	" " "	100	"	90	7.40	90	8.15
	Toy	50	3 to 18	870	3.50	870	4.20
	"	75	3 to 24	871	5.86	871	7.00
	"	100	2 to 30	872	8.75	872	10.80

NOTE: For 220 Volt Transformers add 20% to above prices.



About Choosing Guaranteed Signaling Devices

1872 to 1931—a lifetime spent in research, engineering and development in every phase of signaling.

Now, a perfect understanding of your problems—a complete coordinated line of electric signaling devices for your every building need—too, an Edwards unconditional guarantee offered as your protection on the smallest and largest jobs alike.

Whether yours is a residence, skyscraper, apartment, hotel, bank or hospital job, choose all Edwards' for all jobs, and know your signaling systems and devices are the best.

EDWARDS^{INC.} COMPANY

140th and EXTERIOR STS., NEW YORK



LONDON TERRACE, N. Y. C.

The World's Largest Apartment

Equipped with more than 1,800

Edwards' Telephones

Elec. Cont.—Jandous Elec. Co., N. Y.

(Continued from page 32)

Electric Co., Waterloo, Iowa, was elected president, and M. J. Frazier, secretary-treasurer.

Hanson Resigns as Managing Editor

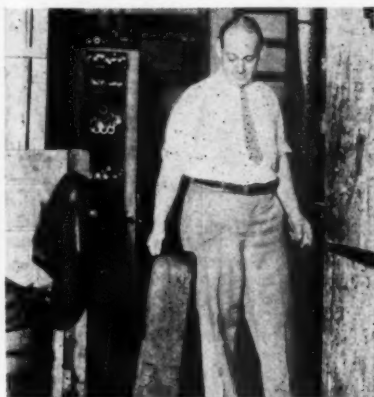
Victor A. Hanson, managing editor of ELECTRICAL CONTRACTING for the past year, has resigned to enter the real estate business for himself.

Previous to becoming managing editor of ELECTRICAL CONTRACTING, Mr. Hanson was eastern editor of ELECTRICAL CONTRACTING, Jobber's Salesman and Mill Supplies. He also served as assistant editor of Electric Railway Journal for one year and for two years assistant editor of Electrical Merchandising. Prior to his publishing experience, he was an electrical contractor on the Pacific Coast.

Mr. Hanson proposes to spend the summer traveling and will open his own offices in New York City in the fall.

Plan to Stop Contractors Working with Tools

The Palm Beach County Chapter Association of Electragists, West Palm Beach, Fla., is endeavoring to obtain an agreement with the local union which will improve conditions in the electrical industry by not permitting the contractor to use his own tools on construction work. This plan will eliminate cutting of the labor estimates and will require all contractors to employ mechanics for all regular work.



SELLS BELTING WITH MOTOR REPAIR JOBS—A. J. Hart of the Fewkes Electric Co., Philadelphia, finds belting sales a profitable side line for the motor repair specialist.

These Two Cigars Look Alike, But—



...which one is the satisfying smoke? You can only tell by smoking both of them!

A TEST like this is no different from the one you should make in deciding the brand of friction tape to use. One roll may look much like another but actual tests alone will tell. Just pin this advertisement to your letterhead and get a roll of DUTCH BRAND "Extra Service" Tape free. The first job you use it on will prove its actual sticking qualities, that it is clean cut and non-raveling, that it won't soil the fingers, and then, time itself will prove its long life qualities and its ability to stick tight. This better tape (four times impregnated) will actually cut your tape expense. Big industries use it.

Order from your jobber.

Make extra profits by selling as well as using DUTCH BRAND Friction Tape. Comes in 4 sizes, Nos. 1, 2, 4 and 8, packed in effective and attractive counter display cartons.

VAN CLEEF BROS.

Established 1910

Manufacturers Friction and Rubber Tape and Soldering Paste
Woodlawn Avenue, 77th to 78th Streets, Chicago, U. S. A.



DUTCH BRAND
Rubber Insulating Tape
Fuses instantly without heat. Molds into one solid piece, replacing the original insulation. Resists over 22,000 volts



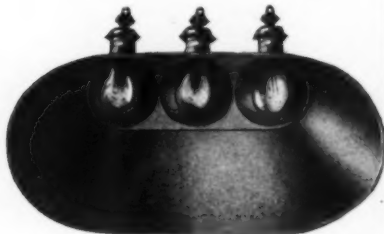
DUTCH BRAND
Soldering Paste
A scientific mixture. Cleans as it works. Holds solder fast. Less paste required per job.

DUTCH BRAND FRICTION TAPE

FLOODLIGHTING EFFICIENCY AT A FAIR PRICE » »

that's

DA-LITE



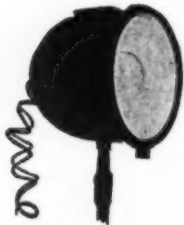
Type 301—Illustrated above is the No. 301 DA-LITE Floodlight. This type recommended for large areas and long distances. Such as baseball, football, golf courses, large lakes, etc.

Type 201—Type 201 (not shown) accommodates 2 bulbs. Recommended for lighting medium areas. The complete DA-LITE LINE includes a floodlight for every purpose.

DA-LITE features floodlighting efficiency—this is proven by scores of successful installations on full sized golf courses, tennis courts, gas stations, etc.

DA-LITE also features a price that pleases your customers and gives you a nice profit as well. Regardless of type of requirements from the floodlighting of a small display sign to that of completely lighting a full-sized golf course, you can depend on DA-LITE to deliver satisfaction, and satisfaction means more business.

New Lens Type Da-Lite



The new lens type DA-LITE meets all requirements of the less expensive lens type light; it is 12" in diameter and approximately 12" depth; may be mounted on pole, building or ground and is adjustable to all positions.

DA-LITE FLOODLIGHT CO.

7400 E. 13th St. Kansas City, Missouri

**This coupon will bring
you a catalog. Send it
in NOW**

Da-Lite Floodlight Co.
Kansas City, Missouri.
Please send me details on your lines.

Name
Address
City..... State.....

Merchandising Procedure Accepted

Submitted by the power company sub-committee to the Electrical Merchandising Joint Committee and accepted by them at the Atlantic City meeting on June 9.

1. The distribution of electric appliances should be on the basis of fair and open competition in the interest of the consuming public, the utility, the appliance manufacturer and all merchandising outlets.

2. All electric appliances offered for sale by cooperating agencies should be standard appliances.

3. No appliance or merchandise not directly related to the use of electricity should be sold by electric utilities.

4. In all merchandising activities the retail price of all electric appliances that have received reasonable customer acceptance should be consistent with present day merchandising practices.

5. There should be no premiums given nor excessive trade-in allowances made in connection with the sale of any such appliance.

6. The presenting to the public of those electric appliances not having received reasonable customer acceptance should be considered as promotional activities and not as merchandising activities.

7. Coordinated advertising of approved appliances should be developed by electric utility companies and local dealers, and the electric company should give all reasonable assistance to

the dealer in advertising, displays, and sales assistance.

8. The deferred payment feature of merchandising activities should be on an economically sound basis.

9. There should be a segregation of the accounting of the merchandising departments of Power Companies from their public utility functions and all items of expense incurred in the merchandising of appliances should be charged to the merchandising activities.

Will Discuss Modernization and Red Seal Wiring

Camp Co-operation XI, the tenth annual summer conference of leagues, will be held at Association Island, July 27 to 31, inclusive. G. W. Weston, chairman of the league council, has appointed the following committee to handle the details of this camp: Samuel Adams Chase, chairman, reception committee; George B. Noll, chairman, entertainment committee; H. E. Dawson, chairman, sports committee and A. Lincoln Bush, chairman, golf committee.

J. E. North, chairman of the business program committee, has arranged a program giving special attention to the industry problems of greatest interest which can best be



IOWA ASSOCIATION HAS LADIES' AUXILIARY: One of the features of the Iowa Association of Contractor-Dealers is the Ladies' Auxiliary. Many of the ladies take a large part in the management of their husbands' business with the result that they are eager to attend the semi-annual convention. The auxiliary has its own meetings under the leadership of Mrs. E. N. Peak of Marshalltown. This year the speakers were John Kuhlemeyer, business counsellor to electrical contractors, and Coit A. Smith, western field editor of ELECTRICAL CONTRACTING. Above are some of the members to the convention as follows: Front row, left to right: Mrs. L. A. Bendix, Alice Weinheimer and Mrs. L. A. Pohren, all of Burlington; Mrs. E. N. Peak, president; Mrs. Wm. Kale, Davenport. Mrs. M. J. Frazier, Burlington, and Mrs. E. C. Edwards, Davenport. Center row: Mrs. J. A. Weinheimer, Mrs. Ray Stang, Mrs. Fred Jechow, Mrs. Clifford Butler and Mrs. Ralph Pierce, all of Burlington. Rear row: Mrs. Art Chaudoin, Muscatine; Miss Catherine Peak; Miss Nina Lynch, Marshalltown; Miss Nellie Poling, Ottumwa; Mrs. V. C. Peterson, Marshalltown; Mrs. Pete Schlueter, Davenport, and Mrs. Victor Thomas, Des Moines.

approached co-operatively. Among the subjects included are: "Ideal Co-operative Plan to Electrically Modernize Old Homes"; "Results Obtained Through Surveys Plus Recommendations to Modernize Commercial Buildings"; "Activities Which May Be Most Effectively Directed by a League"; "Economical Advantages of Local Co-operative Efforts to Promote the Sale of Current-Consuming Devices"; and "Selling the Electrical League to New and Old Members and to the Public." A discussion entitled "The Place of the League in Our Industry," will be held by a leading representative of each of the four major groups in the industry.

Many other subjects will be discussed, and two special sessions will be held, one devoted to Red Seal Wiring and another for league managers to discuss among themselves problems arising in the operation of their organizations.

Utility Must Employ Licensed Contractors

Although the Georgia Power Company of Atlanta, Ga., has been employing licensed contractors for the installation of electrical equipment sold by them, such as ranges, refrigerators, etc., and for any inside electrical wiring, it has been employing the Allied Engineers, Inc., a foreign corporation, for the installation and maintenance of its transmission lines, etc.

The city electrical department has protested. Under the city electrical ordinance which permits the power company to install and maintain transmission lines, underground cables, overhead wiring, cut-ins to buildings and incidental work necessary in the operation of the company, the city claims that the company must either do this work itself or contract with a licensed contractor.

Protection Against Boulder Dam Fly-by-Nights

In order to protect local electrical contractors from "fly-by-night" electricians drawn to Las Vegas, Nev., during the construction of the Boulder Canyon Dam Project, a new electrical ordinance has been submitted to the city council. This ordinance calls for a \$500 initial city license fee for electrical contractors, with a \$25 fee to be paid by those already in the business in Las Vegas.



FIRST CONTRACTOR IN BLUEFIELD:

—R. L. Burgess was the first electrical contractor in Bluefield, W. Va., and has been in the same location over eighteen years. In addition to having the largest contracting business in town, Mr. Burgess sells most of the major appliances used there. House-to-house canvassing is done for the reason that nearly 90 per cent of these specialties are sold through solicitation.

Electrical Exhibit Success in Baltimore

The Electric League of Baltimore, Md., was active in the electrical exhibit recently held by the Electrical Manufacturers' Representatives' Association in Baltimore. This exhibit lasted three days and was exclusively for those interested in the electrical industry.

A committee, comprising of one electrical jobber and one electrical contractor, served as hosts in shifts of two hours each. This afforded an opportunity to all electrical jobbers and a majority of the contractors to contact with the trade and personally become acquainted with various prospective customers.

Forty-five exhibitors had booths and over 1,500 persons attended this exhibit.

Due to the success of this first exhibit, plans are now being formulated to make this an annual affair.

Remodeling Campaign Increases Wiring in Memphis

In order to stimulate building activity in and around Memphis, the members of the Memphis Chapter of Electragists, in conjunction with the Memphis Building Congress and the Memphis Chamber of Commerce,

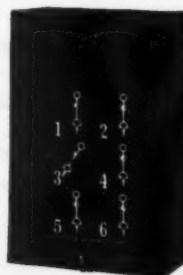
Send for Our Latest Bulletin

Annunciators, Signalling Devices and Signalling Systems



Guarantee Annunciator

Metal Case
"Guarantee"
Automatic



Competition Annunciator

Metal Case
Competition
"Button Reset"



Electric Matting

Made in rolls 10 feet long and only in 2-foot widths. Any length pieces cut to order.

PARTRICK & WILKINS CO.

Established 1882

51 N. 7th ST., PHILADELPHIA

Partrick & Wilkins Co.
51 N. 7th St.
Philadelphia

Please send me copy of your latest bulletins and prices.

Name.....

Address.....

City.....State.....

GIVE THE SLUMP THE SLIP...

IN CONDUO-BASE you have the greatest sales possibilities, in times like this.

There are dozens of buildings around you which you can get to revamp with Conduo-Base, and make their old, out-of-date electric wiring as up to date as in the latest skyscrapers.

Offer to replace the old base boards with Conduo-Base, run base receptacle circuits, and low tension wires, in the two concealed raceways—and presto! Tenants can have their convenience outlets just where they have been wishing they could!

Write us for further details.

Licensed Manufacturers

DAHLSTROM
METALLIC DOOR CO.
Jamestown, N. Y.

UNITED METAL
PRODUCTS CO.
Canton, Ohio

KNAPP BROS. MFG.
CO.
Chicago, Ill.



CONDUO-BASE.. FOR CONVENIENCE OUTLETS

Giant Floodlights

the LOGICAL
choice for all

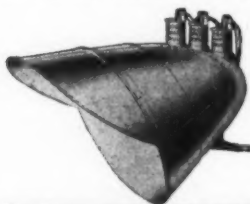


Night Lighting Installations

Giant Floodlight Projectors have won UNANIMOUS approval for every type of night lighting job. Majority of all Night Baseball is played under Giants. Many football fields, tennis courts, bathing beaches, golf courses, driving ranges and other athletic and recreational places are successfully illuminated with Giant Projector. There is a Giant Projector for every purpose.

Night Lighting offers unlimited possibilities, and Giant is making this an extra-profitable field for the Electrical Contractor. We co-operate with you 100%, help you develop business in your community and help you plan details of the installation best suited to the job.

Write us for complete catalog on Giant Floodlight Projectors and the co-operation we have to offer YOU.



Giant Mfg. Co.

Dept. E.C.

Council Bluffs, Iowa

Trenton, N. J. Oakland, Calif.



have formed a Building Activities Committee, and are running a campaign to "Build, Remodel, Repair Now and Save Money" during the next six months.

This building activity committee is headed by C. J. Watson, Jr., district manager, General Electric Supply Corp., who is general chairman.

W. R. Herstein, vice-president of the Armstrong Electric & Manufacturing Co., as president of the Chamber of Commerce, is also actively engaged in this movement, and Joseph A. Fowler, of Fowler Electric Co., vice-president of the Chamber of Commerce, and prominent member of the Electragists Chapter, is a member of the executive council of seven who act as a steering committee.

The electrical trade, with a quota of approximately \$600.00, subscribed nearly \$1,000.00, all local members subscribing to this campaign with one exception.

W. W. Rice, manager of the Memphis chapter, has been appointed to solicit funds and make surveys as to the results of the campaign. To date general permits for May (the month of heavy advertising) were double those of April, while electrical permits for May were 313 as against 244 for April.

H. W. Barnes Resigns

Hobert W. Barnes, familiarly known as "Hobe" to all A. E. I. members, who has been connected with the Association of Electragists for the past three years as assistant to the general manager, resigned on May 1 to enter new activities on the Pacific Coast.

During his association with the A. E. I., Mr. Barnes directed the organization and chartering of a large percentage of the more than 100 chapters now comprising the A. E. I.

In addition to his work with the association, Mr. Barnes served as secretary of the A. E. I. National Motor Section; secretary of the New York Motor Specialists' Chapter, and was a member of several industry committees.

Prior to his coming east he was assistant secretary of the Southern California division of Electragists, and before that was an electrical contractor in Pasadena, Calif.

The New York Motor Specialists' Chapter of the A. E. I., known as

A FUSE *within* A FUSE

**DOUBLE
SERVICE
AND
DOUBLE
PROTECTION**

**SAVES
\$840
ANNUALLY**

that's what you get
when you use TRICO
"Powder-Packed" Re-
newable Fuses.

A fuse is no better than its
renewal element — that's
why TRICO houses the fus-
ible link and powder-packing
in a substantial inner casing so
as to withstand the major assault
of a fuse blowing.

For simplicity, efficiency and better
all-around service, install TRICO
Fuses.

A large hosiery mill
reported the blowing
of the bare link type
fuses about every ten days,
closing down the entire
building. Conservative figures
estimate the loss of production
at \$25.00 every blow.

These unnecessary blowings have
been eliminated with TRICO on
the job. The records now show an
average of one blow every three
months, saving this concern \$840.00
annually. They can do the same for you.

Trico Fuse Mfg. Co., 1007 W. McKinley Ave., Milwaukee, Wisconsin





RENEWABLE FUSES
Built-in Money-Saving Factors.
Fundamentally Correct.



FUSE PULLERS
For safe pulling of Fuses. Genuine
shock-proof horn fibre. 4 sizes.



CLAMP FOR FUSE CLIPS
Reduces Resistance, Preserves Clips
and Fuses. Sizes to fit all Clips.



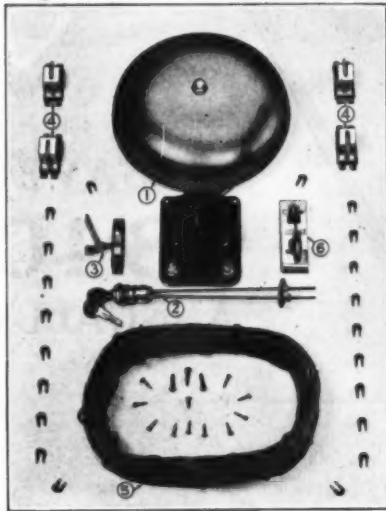
COLORTOP PLUG FUSES
Tells instantly the capacity of a Fuse
by its colors. 6 distinct colors.



NON-RENEWABLE FUSES
Built for service, not
down to a price.

TRICO "Powder-Packed" **FUSES**
REG. U. S. PAT. OFF.

Announcing.



Low Priced BURGLAR ALARM

There is a great demand for a good low-priced burglar alarm and especially now!

First complete burglar alarm to be offered at a reasonable price. Manufactured parts complete. Not a hand-made outfit. For use in stores, filling stations, etc. Has all parts of the high-priced alarms and is easy to install.

**List price Complete
Only \$10⁰⁰
Fully Guaranteed**

The No. 101 Liberty Burglar Alarm Outfit is furnished complete with window and door trips, door lock switch, bell wire and even the screws and staples for installing the parts.

Don't overlook this opportunity to increase your business.

LIBERTY INE

CLIP AND MAIL TODAY
THE LIBERTY BELL MFG. CO.
Minerva, Ohio

Gentlemen: Kindly send me complete information about your new low priced Burglar Alarm Outfit.

Name
Address
City..... State.....

the Metropolitan Electrical Trades, drew up a resolution expressing regret at losing Mr. Barnes as secre-



"Hobe" Barnes

tary and extending the best wishes of the members of the association in his new activity.

Condemn Unapproved Types of Wiring

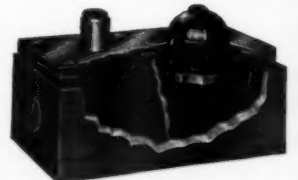
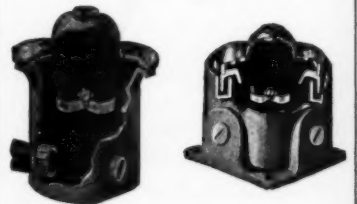
At the 32nd annual convention of the New York State Association of Electrical Contractors and Dealers held during the week of June 15 at Higby Camp, Big Moose, N. Y., a resolution was adopted condemning the practice of the Buffalo, Niagara & Eastern Power Corp. and its affiliated Niagara-Hudson Companies of violating the rules of the National Electrical Code in range wiring methods. The utilities have adopted wiring rules in promoting the use of such unapproved types of wiring, requiring contractors to install electrical wiring which does not comply fully with all requirements of the Code. The association, through a joint conference committee, is prepared to consult with the utilities in drafting of rules and requirements to the end that safe and adequate wiring will be maintained.

The Association also condemned the manufacture of any wiring materials which have not been tested, listed and labeled by Underwriters' Laboratories because it is claimed this practice is harmful to the electrical industry and to the public.

In addition to the above, the program included the following: A. Penn Denton, "The Contractor's Place in the Industry"; A. Lincoln Bush, "How Can Contractors Make Money"; "Why the Niagara-Hudson Range Wiring Specifications?" by E.

"LATROBE" (Fullman Mfg. Co.) PRODUCTS are known as THE BEST

Carried in Stock
by over 300
Jobbers



**Write for New Catalog
No. 225**

on your letterhead and mention
name of your Jobber.

**FULLMAN
MFG. CO.
LATROBE PA.**

... In the new WALDORF ASTORIA HOTEL

Founded on the illustrious fame of one of America's oldest and finest hotels, the new Waldorf-Astoria is being built to carry on this fine old tradition—the choice of generations of the world's traveling elite.

Protecting the vast electrical network for all time, will be CENTRAL CONDUIT—used and preferred by leading electrical contractors in many of the nation's outstanding buildings.

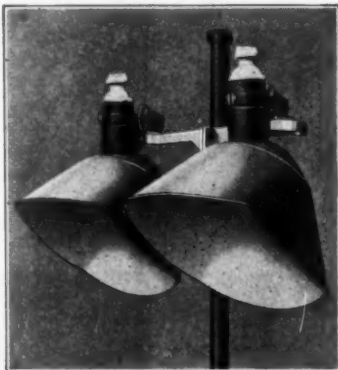
CENTRAL TUBE COMPANY
PITTSBURGH



Architects:
Schultze & Weaver
Electrical Engineer:
Clyde R. Place
Electrologists:
Thompson-Starrett
Co., Inc.

FLEXIBILITY in Outdoor Lighting

Single, Double or Multiple bracket mounting with New Quad 1000 Watt Rectangular Reflector is the "Quad" answer to outdoor lighting demands. Inner Beam Projector—Adjustable Focus, Chromium finish, 750—1500 W.—builds up lighting intensities at more distant points.



1000 W. Reflector, 16x18", adjustable brackets of cast aluminum. Also Single, Triple or Multiple mounting. Reflector may be fitted with Inner Beam Projector.

Use "Quad" catalog as Hand Book of Lighting Data.



Quad No. 55—Support Combination mounted on messenger wire, with outdoor Dome Reflector—200 Watt.

Ask for circular, if misplaced, illustrating and describing new outdoor lighting equipment. Complete catalog on request.



QUADRANGLE MANUFACTURING CO.
30 SOUTH PEORIA STREET CHICAGO

It comes with Clean Threads



**The Symbol
of Conduit
Quality**



The STEELDUCT CO.
Youngstown, Ohio

A. Brand; "Traffic Control in Our Business" by L. W. Davis; "The Manufacturer's Stand Toward Wiring" by Otto A. Frederickson; "Proper Wiring" by Nicholas J. Kelly, and "Electrical Inspectors' Requirements" by W. W. Vaughn, and E. D. Bieretz of the International Brotherhood of Electrical Workers on "Labor."

Louis Freund of New York City was reelected president at this meeting, and A. Lincoln Bush, chairman of the board.

Other officers elected are Richard Wahle, Buffalo, first vice-president; J. F. Burns, secretary-treasurer. A. A. Tuna, New York, was elected second vice-president and H. F. Janick, Rochester, was reappointed secretary. Hugo Tollner, Brooklyn, and Walter Langdon, Utica, were reelected directors, to serve two years.

This convention combined business and pleasure as all meetings were held in the mornings, leaving the afternoons and evenings free for recreation and rest. The amusement program consisted of athletics, bathing, boating, cards, fishing, etc.

The chairman of the convention committee was Louis Freund who was assisted by A. Lincoln Bush, E. C. Brown, Jr., Hugo Tollner, John A. Campbell and S. J. O'Brien.



MAKES COMPLETE DAIRY AND CREAMERY INSTALLATION:—This is a picture of Mrs. Labberton, sole owner of the Labberton Electric Co., Yakima, Wash. She has conducted this business, which consists of both store and contracting operations, successfully for the past five years. Among her recent installations is that of the Yakima Dairymen's Association, a large dairy and creamery. Each machine has individual motor drive and the switchboard houses the disconnect and magnetic switch for every station, only the push-button being located at the motor. Mrs. Labberton's foreman on the job was W. S. Gallant.

INSTALLATIONS

*easier
faster
more economical*

GENERAL CABLE ARMORED SERVICE ENTRANCE CABLE

Lighter in weight, more flexible, easier to handle—General Cable's Armored Service Entrance Cable has brought startling savings on installations in many important communities.

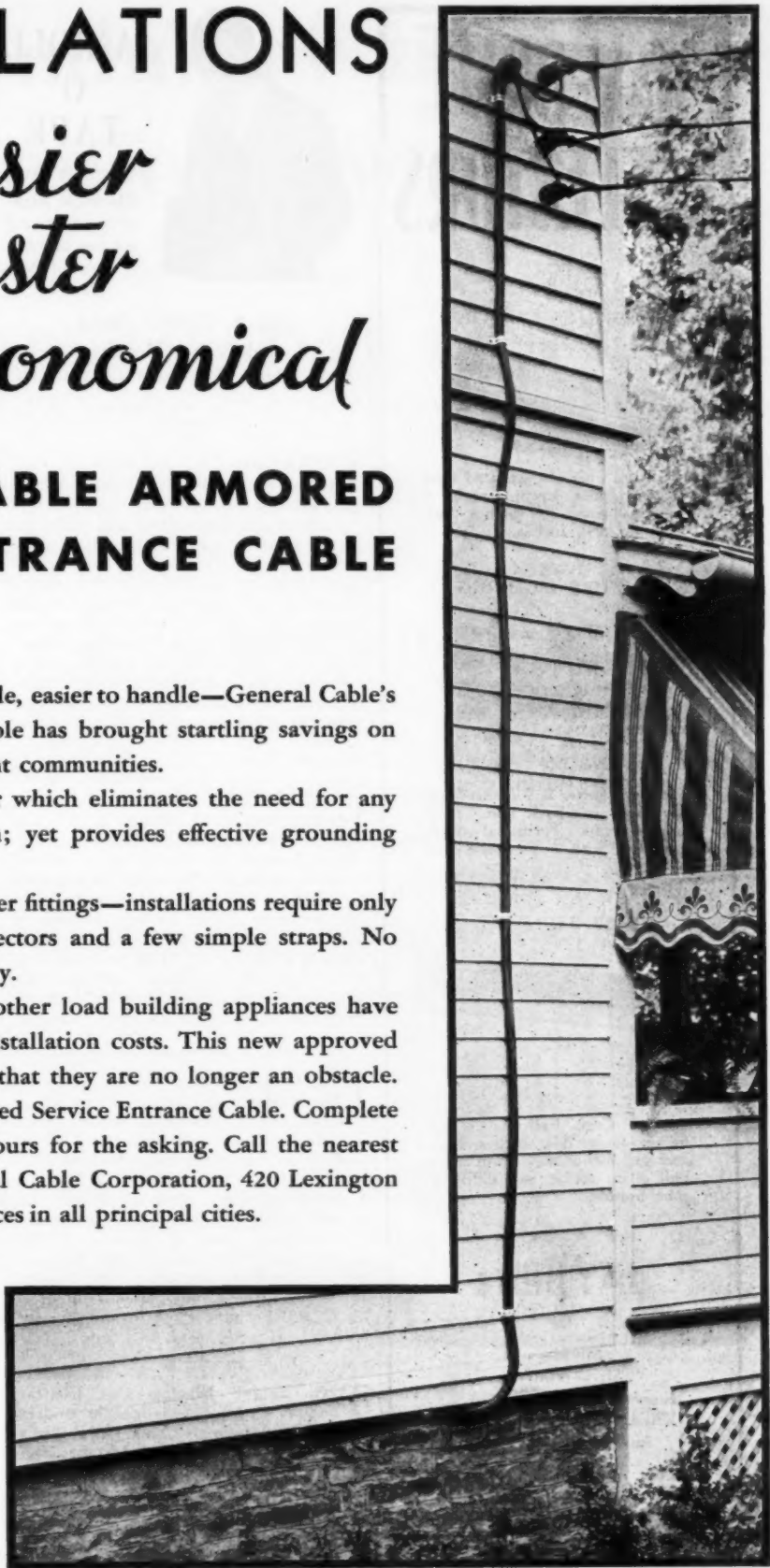
It has its own metal armor which eliminates the need for any additional metallic protection; yet provides effective grounding throughout its length.

Lower material cost and fewer fittings—installations require only a weatherhead, squeeze connectors and a few simple straps. No threading or fitting is necessary.

Many sales of ranges and other load building appliances have been lost because of heavy installation costs. This new approved cable helps cut these costs so that they are no longer an obstacle.

Get the facts on this Armored Service Entrance Cable. Complete literature and cost data are yours for the asking. Call the nearest district office or write General Cable Corporation, 420 Lexington Avenue, New York City. Offices in all principal cities.

**GENERAL
CABLE
CORPORATION**



DAY-BRITE REFLECTORS

FOR

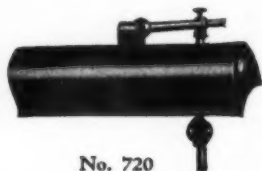
SHOWCASE LIGHTING



No. 90

Unwired unit for standard base T-10 tubular lamp; length, 9 inches; height 1 7/8 inches; face opening, 2 1/2 inches.

PICTURE LIGHTING



No. 720

Picture reflector is 9 inches long for one standard base T-10 tubular lamp. Furnished wired, complete with 9 feet silk cord and plug.

BANK LIGHTING



No. 1012

Cashier Cage Reflector is 18 inches long; 3 1/4 inches high and 4 1/4 inches wide, twin brass pull chain socket and diffusing glass bottom.

DAY-BRITE

for

Showcases
Show-Windows
Stores Banks
Theatres Art Galleries
Interior Electric Signs

DAY-BRITE COMPANY
3825 Laclede Ave. - Saint Louis



A ROLL O' TAPE

Electrical flash-
es gathered
among the Big
Wire-and-Pipe
Men by

Coit A. (Duke) Smith
and Walter Holmes
Field Editors, ELECTRICAL CONTRACTING

I WAS sitting in the store of Geo. Hummel, Davenport, Iowa, electrician, when somebody threw a switch and the fixtures on the ceiling and walls began to light up one after the other at intervals of about 30 seconds. Investigation disclosed the presence of a motor flasher in one corner of the store which turns on the different units without any attention or assistance. Thus Mrs. Hummel, who is the fixture expert of the company, can stand quietly with the customer at one side of the store room and note the effect of each unit as it comes to life.

CONTRACTORS are becoming bookkeepers at Albany, N. Y. The Albany Chapter of the Mohawk Electrical League is sponsoring a school on this subject. The object is not only to teach contractors how to keep books but to show them, through lessons in accounting, just what it costs them to operate a business. It is believed that there will be less price cutting when contractors recognize every item of overhead encountered in their business.

I GOT a big thrill out of this one. Some time ago I got a picture of an old time motor belonging to our friend Fowler of Reserve Electric Co., Cleveland, Ohio. It dated away back to 1890 or thereabouts and would still operate. I just learned that after the article and picture were published in ELECTRICAL CONTRACTING, one of Henry Ford's agents went to Cleveland to buy the motor for the Ford museum. Mr. Fowler appreciated the honor, but thought so much of the motor he wouldn't part with it.

THE Terrell Electric Co., Chattanooga, Tenn., specializes in underground installations. This calls for a world of equipment, up to tractors and mixers. So C. E. Terrell decided to leave his cramped downtown quarters and, going out a way, put up a fine one-story brick structure, made-to-order to accommodate the big machines, autos,

Bends Either Standard Conduit or Steel Tubing



Here is a chance for you to buy a real time-saving bender that won't distort metal, is portable and works with a speed that will surprise you. Equipped with attachments for bending both standard conduit and steel tubing. Above view shows the bender when fitted for standard conduit. Built in two sizes. No. 770 bends 1 1/4, 1 1/2, 2, 2 1/2 and 3-inch conduit. No. 775 bends 2 1/2, 3, 3 1/2, 4 and 4 1/2-inch conduit.



Above is the No. 770 with attachments for bending steel tubing. Bends quickly without crushing metal, making a full 90 degree bend at one stroke of the ram. Note that the tubing is supported by a formed bar, which moves with it, and that the formed shoe is pivoted off center on the ram, causing it to rotate and bend the tube without kinking. Attachments for 1 1/4, 1 1/2, and 2-inch sizes. Write for prices. This machine will save you many hours on every bending job.

GREENLEE TOOL CO. ROCKFORD, ILL.


Please send complete information on your hydraulic benders with attachments for both standard conduit and steel tubing.

Firm.....
Name.....
Street.....
City.....
Name of Jobber.....

7-31

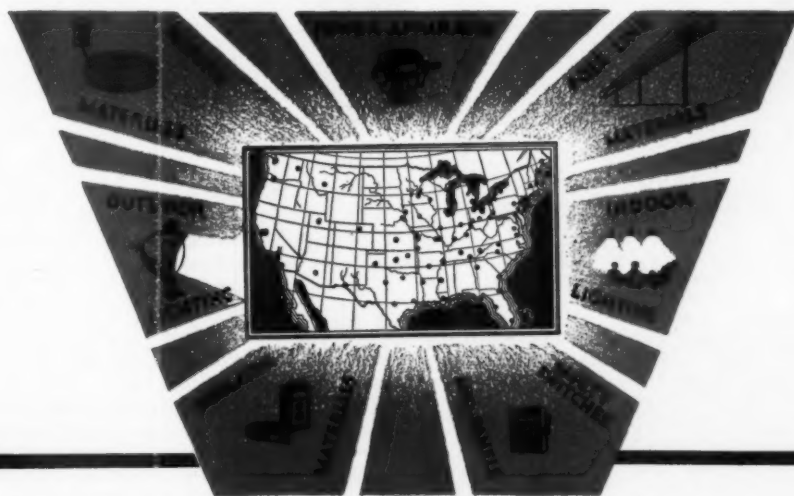
...that industry may enjoy lower costs

First  **EXHAUSTIVE RESEARCH**
by General Electric scientists and engineers

Then  **EFFICIENT PRODUCTION**
in General Electric and associated factories

NOW  **ECONOMICAL DISTRIBUTION** of a complete line of electric apparatus and supplies, from more than 80 wholesale warehouses, strategically located throughout the United States... All to the end that Industry may enjoy lower costs

You can obtain prompt delivery of everything electrical from a General Electric Supply Corporation wholesale warehouse near you



GENERAL  ELECTRIC
SUPPLY CORPORATION



RUGGED RALCO RECEPTACLES

Type A

Type B

Type C

Type PRG Plug

Type D

Type HR

Type HF

You may pay more, but you cannot buy a more dependable Heavy Duty Circuit Breaking Receptacle and Plug than the RALCO Switch Blade Contact Type.

250 Volt D. C. 600 Volt A. C.

Write for Bulletin No. 101-A.

Ralco Manufacturing Company
Designers & Manufacturers
125 No. Albany Ave.,
Chicago, Ill.



Type 2730-C

Unusually easy to wire. Just loosen the two screws, and the whole top comes off, making inside open and accessible. The lip provided on the overhanging cover effectively keeps out any weather.

Type T 8030-LS

Threaded solid fitting with blank cover and sealing screws, for entrance meter service. Provided with flat back, permitting snug fit to wall. Smooth interior facilitates pull-through.

Type 1100-ELL

Holds conduit snug to wall. Sliding cover has weatherproof overhanging flange which can be locked without removing screw. Condensation hole drilled if desired. Self-locking cover type is also made.

You'll BOTH be Satisfied with ADAPTi

YOUR CUSTOMER will be well satisfied when you use ADAPTi Service Entrance Fittings. The work is neat—quickly finished—a credit to his judgment in selecting your firm.

YOU will be satisfied, because you know the work is permanently weatherproof—a workmanlike job—and that you've made more profit than you'd have done otherwise.

Write for Bulletins

The ADAPTi Co., 2996 E. 72nd St., Cleveland, O.

NEW YORK—A. Stone, 112 E. 23rd St.
BOSTON, MASS.—Jas. H. Healey Co., 120 Pearl St.
CHICAGO—United Electric Sales Co., 300 W. Adams St.
PHILADELPHIA—Craven Electric Sales Co., 30 Bank St.
LOS ANGELES—American Electric Supply Co., 225 East 4th Street

etc. It is properly divided in rooms for convenience and more stories can be added.

L. T. Souder, prominent electrical contractor in Washington, D. C., has established offices, shops and warehouses at 746—6th St., N. W. It is revealed that he has owned this place for some time but is now telling the world with a big front window and large gilt letters.

THE Belmont Electric Co., New York, N. Y., recently moved to the new R. C. A. building, is one of the few contracting firms located in a skyscraper that have a stock room and office in the same building. Stock is kept in a sub-basement where the rent is comparatively low. They find, too, that by the proper arrangement of stock and shelving they are able to store goods in a little over one-half the space formerly occupied. This firm specializes in theatre work and with the present arrangement they have not only close contact between office and stock room, but have stock closer to their theatrical customers.

THESE Iowa fellows use lots of things besides the corn song and hard roads to boost themselves these days. The Service Electric Co., Burlington, Iowa, carries the Electragists emblem on the windshield of the car and, in a large design, on the spare tire cover. The company's name is also shown at each end of the car.

IT is encouraging to see how the idea of specialization is being extended by many contractors in the matter of selecting and training mechanics for certain kinds of wiring. Paul W. Curtis, Chattanooga, Tenn., has been quite successful in serving the local newspapers on installations and maintenance on their printing apparatus. So he decided to develop a special crew for that department, and has men who know all the delicate ins and outs of these important hook-ups.

WALTER J. BURKE, superintendent of the wire division of the Boston Fire Department, recently completed forty years of service with the city electrical inspection department. A dinner and reception was given in Mr. Burke's honor at the Copley Plaza Hotel, Boston, and almost everyone in the electrical industry in Boston and vicinity attended this dinner.

RUM raiders, including 50 tenement inspectors and 25 policemen, raided the upper east side, New York, June 9. No rum was found. However, 306 inadequately lighted hallways were reported. Tenement wiring should be better for New York contractors.

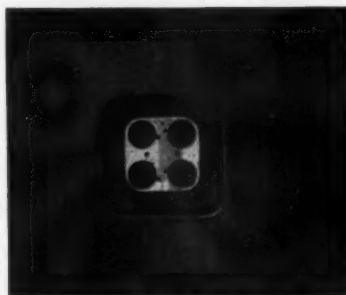
announcing the NEW line of A-S-E Fuse-Cabs



... with ...
provision for
branch circuit
switches
**UNDER
THE DOOR**
and at
NEW LOW PRICES



No. 4306 style "DS" Surface
Type Fuse-Cab with knockouts
for toggle switches under the
door.



A-S-E Fuse-Cabs range in size
from 2 to 24 circuits—with or
without provision for switches
under the door.

UNDER the door—that's where branch circuit switches belong—and that's where they go in these new, improved style "DS" Fuse-Cabs. Knockouts in the dead front accommodate standard toggle switches.

In addition, locks within black bakelite handles are standard on all 14 to 24 circuit Fuse-Cabs. All flush types are now equipped with galvanized tubs, and sizes 2 to 12 circuits inclusive have an exclusive mounting bracket which is integral with the tub. Plaster irregularities are automatically taken care of because the dead front is independent of the trim. Straight wiring is made possible by the neutral terminals on each unit block. And all flush types, and style "DS" surface types, have attractive new metallic grey lacquer trims. With all these improvements—the new line of A-S-E Fuse-Cabs is offered at new, low list prices and new discounts. Write for Bulletin F-10.

All-Steel-Equip
Company
Incorporated



336 John Street
Aurora - Illinois

Other A-S-E Electrical Products

Switch Boxes
for Rigid Conduit
Non-Metallic
Cable

Armored Cable

Outlet Boxes
Round, Square,
Octagon

Cable Boxes

Jay-Kay Boxes
with clamps
outside

Cutout Boxes
and Cabinets

Pull Boxes

Wiring Troughs

All types and
sizes

Concrete Boxes

Handy Boxes and
Covers

Ceiling Boxes and
Plates

Outlet Box Covers

Extension Rings

Bar Hangers

Special Boxes

Reddy-Sets

FITTINGS

Locknuts and
Bushings

Box Connectors

Fixture Studs

Entrance Fittings

Pipe Straps

Miscellaneous
Conduit Fittings

Entrance Switches

Circuit Boxes

FUSE-CABS

2 to 24 Circuits

Flush and Surface
Types

—with or without
provision for
Branch-Circuit
Switches



Sterling Silvered Glass Reflectors

**Enduring
Lustre**



**Guaranteed for
"A Lifetime
of Service"**

No. 251. Provides exceptional efficiency for high, medium, or low shallow windows. Uses 150-200 Watt Mazda "C" Lamps.



No. 253. For uniform illumination over wide areas in show windows. 150-200 Watt Mazda "C" Lamps.



No. 231. Highly concentrated distribution performance for low shallow and island windows. Utilizes 100 Watt Type "A" Inside Frosted Lamps.



No. 233. For small, low and deep windows. Directs light over wide angles. Uses 100 Watt Type "A" Inside Frosted Lamps.

Reflector & Illuminating Co.

Manufacturers & Engineers

1431-1435 West Austin Ave.,

Chicago, U. S. A.

REPRESENTATIVES IN
ALL PRINCIPAL CITIES

PRACTICAL METHODS

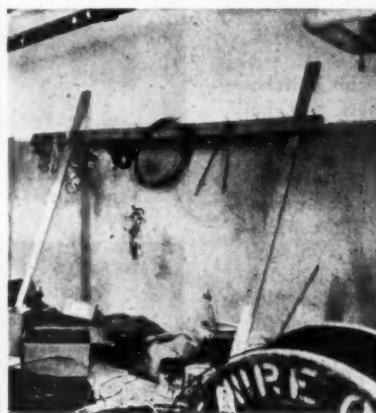
Jars for Small Parts

There are approximately 600 glass jars on shelves in the motor repair shop of George M. Jones, Scranton, Pa. Brushes, screws, nuts and all



**SMALL PARTS CAN BE EASILY
FOUND WHEN KEPT IN JARS.**

small parts are kept neatly arranged and visible. The jars are labeled according to the contents giving a description, the cost and selling price.



TO KEEP SMALL FITTINGS OFF THE FLOOR—To keep small fittings off the floor and in sight when wanted, Leibfind & Hagen, New York City, have devised a rack of three sticks with nails in the cross stick which leans against the wall. Small fittings are strung together and hung on the nails. Similar racks are made for workmen's coats.

Always Look Before You Light

That sounds like good advice to a parachute jumper, but it's even better advice to electrical contractors.

The lighting of modern buildings has become an exact science as well as a fine art.

In order that the finest possible lighting effects may be secured for any building, we maintain a completely equipped lighting demonstration studio at our factory.

Here—with the hearty cooperation of our corps of experienced lighting engineers—a complete program of lighting effects can be worked out, and Hub equipment specially designed to produce every desired lighting effect.

You are cordially invited to make free use of all of our facilities as it fits your convenience. The complete facilities of our capable organization are yours to command.

Write for your free copy of comprehensive Lighting Handbook just published. We will be glad to send it to you.

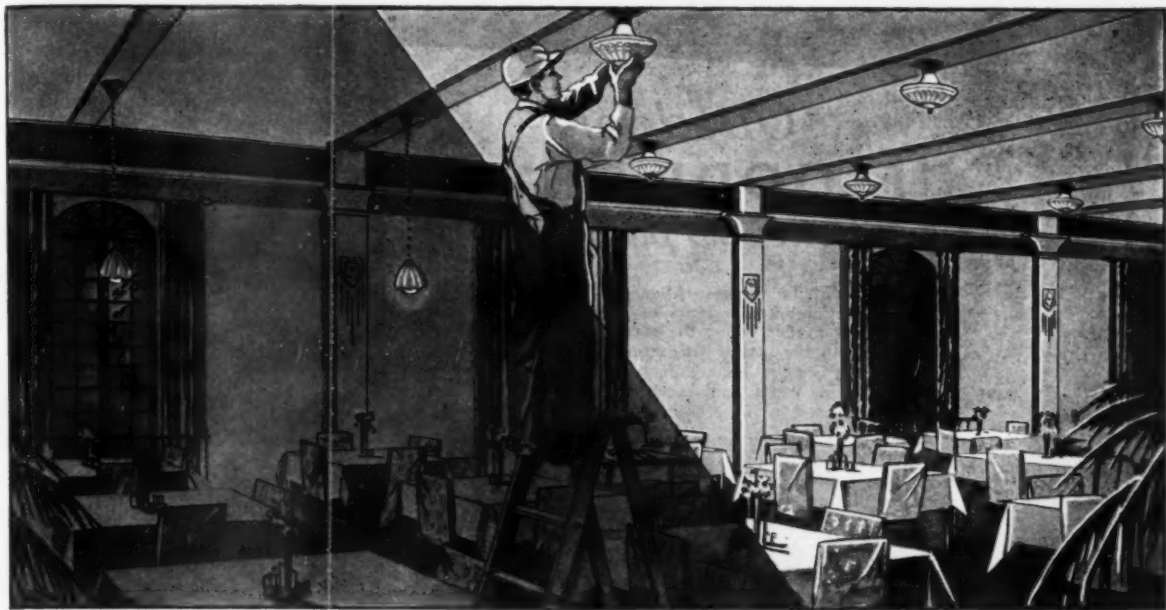
HUB ELECTRIC COMPANY

**Complete Electric Lighting
Equipment**

**Factory and General Offices
2219-2225 West Grand Avenue
Chicago**

Telephone Seeley 6440-1-2-3

**Branch Offices
New York Toledo Milwaukee Minneapolis**



TURNING THE *Twilight Zone* TO PROFIT

TO ALL branches of business, Westinghouse is presenting facts on the waste and danger of the Twilight Zone*. This means stimulated lighting business and a profitable opportunity for you. Capitalize the opportunity and protect your customers by installing high grade equipment from the Sollux line.

Developed to correct the widespread faults of interior lighting, Sollux luminaires possess all the qualities which your customers seek. Highest efficiency and com-

plete freedom from glare are but two of their qualifications. With their convenient "tilt out" caps which can be removed from the bottoms of the globes for servicing, they reduce the

cost of maintenance. Further, the line is complete and fills every need of commercial lighting.



Write for booklet, "The Way Out of the Twilight Zone", which will assist you to convert into profit the extensive advertising which Westinghouse is now directing against the Twilight Zone.

**The deceptive half-light between obvious darkness and adequate illumination.*

Westinghouse Lighting Specialists will help you plan an effective lighting system

Westinghouse

T 31764





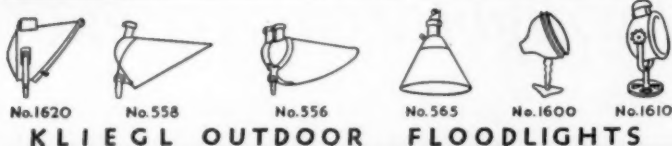
Outdoor FLOODLIGHTS *for every purpose*

REQUIREMENTS vary—so Kliegl floodlights are made in a number of different types to permit a selection best suited to your needs—giving the maximum light, at a minimum cost, with the utmost satisfaction. They are made for close-range or long-range lighting, with a concentrated or wide-spread light beam, and every unit is guaranteed, well made, highly efficient, and economical.

Advise us about your conditions—what you want to light, and the problems that confront you. We will gladly offer recommendations, and send descriptive literature of our complete line of outdoor floodlights.

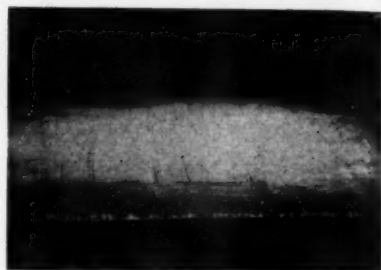
KLIEGL BROS

UNIVERSAL ELECTRIC STAGE LIGHTING CO., INC.
321 WEST 50th STREET NEW YORK, N.Y.



A Lighted Tracing Table

Contractors with an eye for efficiency make electrical tracings of all plans on their jobs, thus enabling the men to read them easily and not make mistakes. The making of these

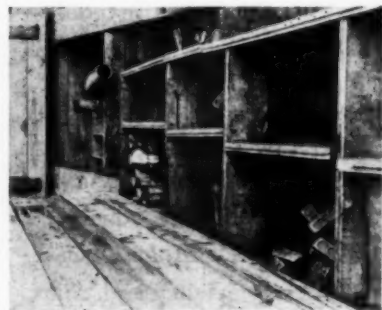


HOW LIGHT COMES THROUGH.

tracings is greatly facilitated by the Mercer Electric Co., Trenton, N. J., by the use of sub-lighted tracing table. The table is constructed with a glass top. A reflector containing two lamps is placed on a shelf under the glass, enabling the draftsmen to trace drawings without eye strain. Metal legs are attached to the back of the reflector giving it the correct pitch. It may be moved under any part of the print where light is desired.

Material Boxes for Big Jobs

When the job permits, the Lindsey-Wright Co., New York, N. Y., for small fittings builds material boxes and locates them on the canopy over the sidewalk. This permits the ma-



PROTECTS FITTINGS AND MAKES THEM EASY TO HANDLE

terial to be raised on winches from the street directly to the boxes, or from the boxes to the floors where fittings are needed. The boxes are made up roughly on the job with partitions for different types of material. No attempt is made to do fine work, utility and speed in construction being the main considerations. The partitions are staggered to make nailing

When Things Go Wrong ELECTRICALLY—

Test-O-Lite

A PRACTICAL POCKET TESTER

—Indispensable to Electrical Workers
and In the Household

DETECTS FAULTS

in electric light and motor circuits, auto
spark-plugs, household appliances,
radio sets, etc.

List

\$1.50

Discounts on 100 or
more—with plates bear-
ing your firm name, mak-
ing an exceptional souvenir
for any anniversary or conven-
tion.



**L. S. BRACH
MFG. CORP.**

NEWARK, N. J.
TORONTO, CANADA

Locates

Burnt-Out Fuses

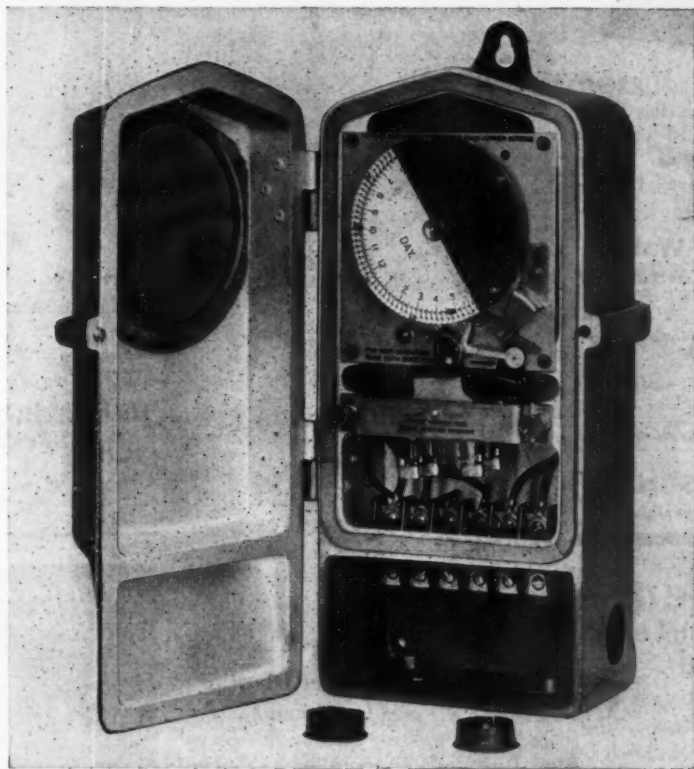
TESTS Current 110 volts up to
550 volts A. C. or D. C. in-
dicating the voltage.

TESTS leaks up to 20
megohms. Detects
live and ground
wires.

Patented
Oct. 21, 1930
No. 1,778,883

Carry Test-O-Lite in your pocket as you carry a fountain pen.

SANGAMO TIME-SWITCHES



ACCURATE TIME....ELECTRIC WINDING
MODERATE COST....LOW UPKEEP

The Sangamo Time-Switch is the product of combined facilities of two American manufacturers—each a leader in its field—Sangamo, makers of Meters, and Hamilton, manufacturer of the "Watch of Railroad Accuracy."

The Sangamo Time-Switch embodies these features:

1... Accurate dependable time...insured by the standard Sangamo clock-movement with Hamilton 11-jewel Escape-ment having a micrometer adjustment, and fully protected by dust-cap.

2... Electric Winding...The switch mechanism is operated by a clock-mainspring, kept wound by a Sangamo motor which is continually in circuit. Because of ample reserve

power, the switch is unaffected by current interruptions.

3... Mercury tube contacts of latest design, shown by tests to be absolutely dependable in service.

4... Independent of frequency or voltage variations.

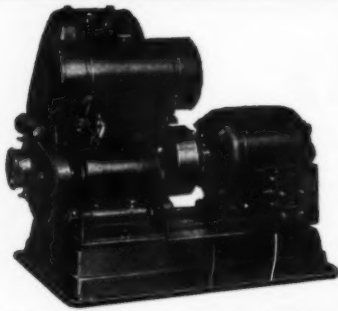
5... Made for either a. c. or d. c. operation.

6... Low maintenance cost...simple, sturdy design assures trouble-free operation. All parts interchangeable.

For medium-priced installations as well as costly ones, wherever a sturdy and thoroughly dependable time-switch is required...specify Sangamo. Available with meter terminal base or conduit-connected base.

Write for descriptive folder giving complete details.

SANGAMO ELECTRIC COMPANY • SPRINGFIELD, ILLINOIS

A. C. Electric Plants

ONAN ALTERNATING CURRENT ELECTRIC PLANTS furnish the same current as city service—110 volt, 60 cycle, A. C. Operate Radios, Water Systems, Refrigerators and all Household Appliances.

Sizes 500 to 1,800 Watts

Available from stock. No battery used except to start the engine. Ideal for places remote from electric service such as farms, camps, lake homes; also for standby equipment, and sound amplification.

Also a complete line of D. C. models, 350 to 1,500 watts.

Some Dealer's Territory Available.

D. W. ONAN & SONS

351 Royalston Ave. Minneapolis, Minn.

Requirements for Signal Systems are Rigid



That is why it is always best to use **STANDARD TRANSFORMERS**. There is a transformer built for every signal requirement. Because they are made for this work they are safe, sure and dependable.

*Standardize
with
Standard*

CLIP AND MAIL COUPON TODAY

The **STANDARD TRANSFORMER CO.**
WARREN, OHIO

Kindly send me bulletins describing and illustrating your complete line of "Standard" Transformers.

Name.....

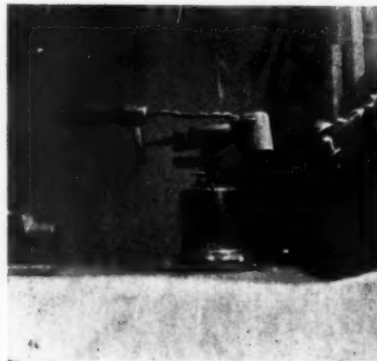
Address.....

City..... State.....

them in easy. Boxes have hinged covers but are not locked as the cover is only for protection against snow or cement, etc., which may fall from the job above.

Home Made Soldering Cup

This home made solder cup, used by Royal R. Irish, Albany, N. Y., will solder 12 outlets without reheating. It is made from a coupling into



WILL SOLDER 12 OUTLETS WITHOUT REHEATING

which is screwed a pipe plug. Holes are drilled at the top of the coupling and No. 8 wire inserted on each side, and twisted to form a handle. A screwdriver handle is then slipped over the end to keep it cool while in use.

Individual Bracket Display

Fred R. Smith, Scranton, Pa., finds that lighting prospects become confused at the sight of too many



**INDIVIDUAL BRACKET
DISPLAY.**

fixtures. Consequently he mounts brackets on boards and shows them on a background of black velvet. Light fixtures are placed on a dark board and dark fixtures are displayed on a light board.

ELIMINATE SOLDER and TAPE USE



Trade Mark Patented

JIFFY Wire Connectors

Jiffy wire connectors will give you all you want in wire connections—

**Speed—Safety
Reliability and
Efficiency**

Try them and prove for yourself

Approved By

Underwriters
Laboratories

Factory Mutual
Laboratories

JIFFY WIRE CONNECTOR CO. HACKENSACK, N. J.

General Sales Office
G. Denn. Montgomery, Jr.,
458 Broadway, New York City
Phone Canal 7533



KLEIN'S Fish Tape Puller

Slip a Klein Fish Tape Puller onto the fish tape. No matter how many bends in the conduit—no matter how far to the end, Kleins Fish Tape Puller will pull it through easily, quickly, with a grip that won't slip.

Mathias KLEIN & Sons
INCORPORATED
3200 BELMONT AVE., CHICAGO

THE NEW BATTLE CRY!

Better Profits, not mere volume, is the new "battle cry" of Contractors.

Increase business if possible—but PROFIT ALWAYS!

Reduced volume may be a blow to pride—but Profit heals all wounds.



Profit Insurance

"PROFIT YOUR SILENT PARTNER" is the title of a little booklet we have issued for distribution among Contractors and Dealers who are interested in FACTS!

Would You Like To Read It?

It is yours for the asking. Simply attach the coupon below to your letterhead and your copy will be sent immediately.

Henderson-Hazel Corporation,
5005 Euclid Ave.,
Cleveland, Ohio

Gentlemen:

Without obligation please send us your booklet, "Your Silent Partner."

Name.....

Street Address.....

City or Town.....

State.....

EC-7-31

A BIG MONEY SAVER

Eliminates triple handling—unwinding—measuring and rewinding wire, thus saving time and money. Manually operated—reels wire into neat coil, automatically counting and registering number of feet. Strongly built of heavy selected materials so as to last a lifetime.

It Pays for Itself

Send for bulletin.
Write us on your jobber.



**Minneapolis Electric
and Construction Co.**

80 S. 12th St.
Minneapolis Minn.

the threads on
"GALVADUCT"
rigid steel conduit are
cut before the protective
zinc coating is electro-
chemically applied. On
some conduits the zinc
protection is removed
when threads are cut.



Manufacturers of high grade
conduit for more than a
third of a century.

Garland Mfg. Co.

Pittsburgh

Penna.

Motor Sales Policies

(Continued from page 19)
provisions of the Motor Sales Agreement
(Class "G") as follows:

1. All purchases made under this agreement are for domestic resale as an integral attached or detached part of the machines listed below which are manufactured by the Reseller.

Description of Machines.

Trade Name of Machines.

No discounts will be granted hereunder for any purchase not specified above.

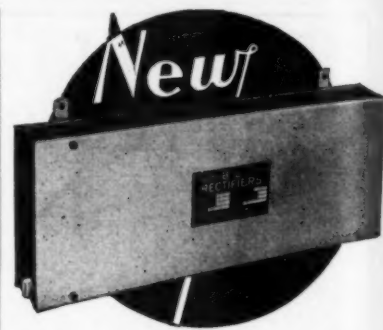
2. With respect to the products of the Company and under its trade policy published in the Reseller's copy of the Company's motor or control price book, the Reseller qualifies as a Machinery Manufacturer, Class "G." The Reseller will not represent himself to the trade as a Motor Dealer, Agent, or as having any relation to the Company other than the relation of a Machinery Manufacturer, Class "G" as specified in the agreement and this rider.

VI. Motor Brokers

The following statement of the manufacturer's policy seems to cover this situation:

Motor brokers as such do not serve any really useful purpose in the scheme of motor distribution and are not considered logical candidates for a dealer franchise.

The motor broker menace has been checked and will pass quietly out of the picture and will serve only as a reminder of the necessity for complete, concerted and aggressive publicity to prevent the growth of the fungi that saps the vitality (profits) of successful business orderly conducted on the American principle of "Live and Let Live."



Construction on B-L Rectifier Assemblies

The B-L Assemblies illustrated above are now housed in steel cabinets of new design, with added features . . . Cabinets are of heavy gauge steel with aluminum finished covers held in position by 4 screws . . . Mounting lugs conveniently located for easy installation . . . Porcelain bushings for intake and output . . . Ample ventilation on 4 sides.

This type of cabinet construction lowers production costs and enables us to quote reduced prices and added discounts to jobbers and contractors. Wherever low-voltage direct-current is necessary, B-L Rectifiers will do the job quietly, efficiently, and usually at a lower cost. They are ideal for replacing storage batteries and furnish dependable rectified current for the operation of electric time clocks, signal systems, etc. Literature explaining their many uses and applications will be sent upon request.

The B-L Electric Mfg. Co.

Dept. C
ST. LOUIS, MO., U. S. A.



**BECOMES INSURANCE INSPECTION
ENGINEER:**—Lee C. Baltzelle, for the past year sales engineer for Norton & Norton, industrial electrical contractors, Los Angeles, has been appointed engineer for Swett & Crawford, San Francisco, and the Pacific Indemnity Co. of Los Angeles, in charge of inspection of industrial plants in the northwest. He has been a very active worker with the California Electragists.

Subscribers

You can't afford
to miss a single
issue.

Give us your
new address if
you have
moved.

Cleveland's New Stadium

ANOTHER STEELTUBES JOB

WITH permanent seats for 78,000; seating 100,000 at football games, and 125,000 at fights, Cleveland's municipal stadium ranks with the world's greatest sport structures. And none is more modern than this two and one-half million dollar project.

Into this great stadium went two carloads of Steeltubes Rigid Thin-wall Conduit, carrying the conductors for the general lighting system.

Steeltubes deserves careful consideration, not only for the large wiring jobs, but for homes, factories, commercial buildings . . . wherever the utmost value from every electrical dollar is desired. Steeltubes is rigid . . . strong . . . uniform. It is easy to handle . . . no threading. More speed . . . economy and quality in conduit work. It will pay you to find out all about it . . . and to **TRY IT**.

Electrical Division

STEEL AND TUBES, INC.

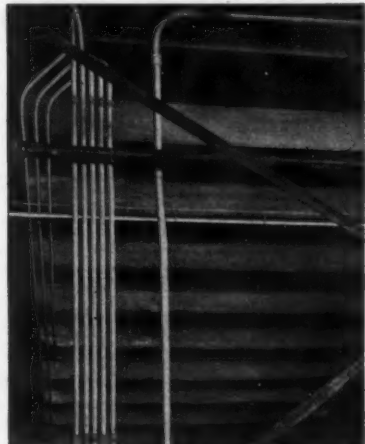
Cleveland, Ohio

(A Unit of Republic Steel Corp.)



(Walt Wide Photo)

Cleveland's Municipal Stadium. Architects: Walker & Weeks; Engineers: Osborn Engineering Company; Electrical Contractor: Parker Electric Company.



These two views show installations of STEELTUBES in the new Stadium. Note the straight runs and uniform bends that contribute to the appearance of the STEELTUBES job and help to make easier the work of pulling through conductors.

Steeltubes

THE MODERN THREADLESS CONDUIT

KECKLEY FLOODLIGHTS



TYPE K 140
Cast Aluminum Housing, Mirrored Glass Reflector, Trunnion Mounting, 1000 Watts P8 or G Lamp.

Contractors take pride in referring prospects to their Keckley Floodlight installations because they know their customers are obtaining maximum efficiency due to their design and quality of materials used, which results in new business.

Keckley Floodlights are made in 12", 14", 18", 18" and 25" sizes, of cast aluminum, porcelain enamel and spun aluminum. Write for bulletin No. 600.

O. C. KECKLEY COMPANY
565 Washington Blvd., Chicago, Ill.

ARMSTRONG BROS.



Patented CHAIN VISE

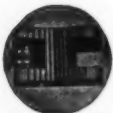
A light, compact vise that goes easily into the tool bag, and combines large capacity with great strength. 1-piece jaws prevent the bending of even the smallest conduit. Design features include:

1. Drop forged 1-piece jaws.
2. Drop forged steel base.
3. Drop forged steel handle.
4. Alloy steel screw.
5. Hardened steel nut.
6. Proof-tested chain.

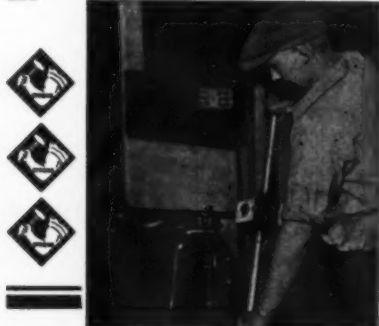
Write for Cat. P-10

Armstrong Bros. Tool Co.

"The Tool Holder People"
311 N. Francisco Ave., CHICAGO, U.S.A.



Detail of 1-piece jaws. This design assures full support to conduit.



VII. Stator Exchange Policy

The plan for the sale of a sort of glorified repair part was in its very early stages and quickly received the attention it deserved.

The present policy will, in a measure, eliminate the inequalities, and any that may develop in the future by experience will be subjected to further research and proper consideration.

General Policy

A fair opportunity is desired and presented to the Motor Specialist to secure business and at a profit. Any policy must be viewed from the standpoint of ability to interpret every possible phase or detail of a written document, but it is of equal, if not greater importance, to fully evaluate the spirit, intent and principles motivating the drafting of same.

The growth of any business is, of course, materially helped by being identified with, and in the confidence of the manufacturer it represents. Naturally, duplications of effort must be avoided for economic reasons, but cases will develop where the manufacturer may find it desirable to cooperate on individual propositions to the advantage of the buyer, the manufacturer and the reseller.

Bearing in mind the great difficulty of a national movement, any progress made places a very definite burden on all Motor Specialists, both individually and collectively, to stand behind our committee's work and do everything within their power to justify the statements made by us as their representatives and to cooperate in a full and complete measure.

Of the seven points in the Suggested Motor Distribution Policies, but two remain for further research:

5a. On sales of motors above 200 hp. each, the Motor Specialist holding a franchise shall have a differential of at least 5%.

In case I should assist in the sale of a motor larger than 200 hp. to one of my regular customers, I understand that even now I would receive from the Company with whom I hold an agreement, compensation for the service I render.

7. *Direct Sales.* Where motors are sold direct to the customer by the manufacturer, compensation of at least 5% shall be allocated to the motor specialist with a franchise who installs the wiring for this apparatus.

A great deal of missionary work had to be done to bring home to the manufacturer that this point has merit and is advantageous to them; that it was not conceived or set forth to get a little easy money for the Motor Specialist, but is founded upon good, sound business principles, and while this matter is being carefully inquired into, I believe it is possible, even at this time to receive compensation for service rendered.

I suggest it as an obligation, as well as an advisable step, that each Motor Specialist obtain from the manufacturer with whom he holds an agreement, a definite statement in regard to their attitude and policies on the various features of motor distribution in question. The Company with whom I hold an agreement, has recently presented me with a revised type of contract which more clearly and concisely defines the relationship existing between itself and the motor dealer. Such an agreement unquestionably promotes mutual understanding and gives me, as one of its motor dealers, a clearer conception of its policies.

The CHICAGO

is the
**Quickest Way
To Hang All Conduit!**

With the Chicago Conduit Hanger you make 2 operations—

1. Drill Hole
2. Put conduit in place and drive hanger in with fluted punch.

In addition to ease of installation these hangers

1. Cost less
2. Take less drilling in brick or concrete
3. Take less labor to install
4. Have no protruding bolts or nuts

Your next job and every job will be easier and net you more money if you use Chicago Conduit Hangers, and other Chicago products which include Expansion Bolts, Expansion Screw Anchors, etc.



**Free
Samples
Will Be
Sent You**

The Chicago Expansion Bolt Co.
126 S. Clinton St. Chicago, Ill.



SHERMAN SEAMLESS SOLDERING LUGS

No solder can leak out at the closed end—insuring a neat job and no waste of solder. Great precision is used in making SHERMAN soldering lugs to insure a perfectly flat contact surface.

Order from Your Jobber
H. B. SHERMAN MFG. CO.
Battle Creek, Michigan



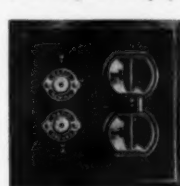
Radio Outlet Time is Here

Make These Fast Sellers Your Leaders

Like any other wiring specialty, there are certain Yaxley Radio Convenience Outlets that are called for more frequently than others. Due to the fact that practically every residence, hotel, hospital, school or apartment building that owns a radio



No. 136—A Yaxley Radio Outlet for Aerial and Ground Connections, that has become practically standard for radio wiring. Brass, \$1.00; Bakelite \$1.10.



No. 241—For Aerial and Ground and A. C. Connections. Gives an extra outlet for electrical appliance. Brass, \$2.00; Bakelite, \$2.20.

One Job Sells Another

There is nothing else so potent in selling radio outlet installations as the word of mouth endorsement of the owner of one.

Mr. Smith is getting his house fixed up, and while he is at the job of painting and decorating, thinks it a good time to get in some new outlets. Mr. Contractor looks around and says: "That's a nice radio set; why don't you put in a few radio outlets? You can avoid all damage to paint and wall paper, and make your radio installation equal to the rest of the electrical installation."

Mr. Smith likes the idea and in they go. Next time Mrs. Smith entertains she says: "But the best thing we've done is to get rid of those radio wires that messed up everything and were always in the way. Did you ever see anything neater?"

Make it a point on the next job in that neighborhood to say: "Do you know Mrs. Smith? You should see the nice little installation we put in their home." It works.

A Radio Outlet for Every Wiring Job

Get a Yaxley Radio Outlet Book and see how many different radio wiring jobs you can satisfy with standard Yaxley plates. With the various combinations there is

set needs anywhere from one to a hundred or more, the No. 136 and the No. 241 are very fast sellers. Get going on these, and the reputation built up because of these installations will bring the more pretentious and big money jobs.

practically no job that you can not make up. It is cheaper to use Yaxley radio outlets than to make them up yourself, and the customer gets the best of it also. Yaxley radio outlets are made by a radio manufacturer—that's the big difference.

Radio Outlets in Red Seal Jobs

Makeshift outlets for radio connections breed bad wiring practice. It is a fundamental policy with us to recommend that radio installations be made by electrical contractors. The advantage of standard radio outlets is recognized by engineers and architects, and in the Red Seal recommendations we find such a notation as this: "Radio outlets should be provided for lead-in wires and additional outlets provided in living room, dining room and main chamber for connecting loud-speakers."

Special Plates and Special Finishes

Yaxley Radio Outlet Plates are regularly furnished in either brass or Bakelite, but there is a variety of finishes available to meet special conditions. Chrome, enamel in various shades, etched brass, etc.

For exclusive hotel, apartment building, clubs, etc., special decoration, lettering and finishes will be furnished on specification.

Where to Sell Them



Town and Country Houses



Hospitals



Schools



Hotels and Apartment Buildings

YAXLEY MFG. CO.

1528 West Adams Street,
Chicago, Illinois

RADIO CONVENIENCE OUTLETS FOR EVERY RADIO NEED
RHEOSTATS—VOLUME CONTROLS—RESISTANCES—JACKS—PHONE PLUGS—SWITCHES

Manufacturers News

A department for the announcement of activities of manufacturers that are of interest to contractors, such as changes in executive personnel, branch offices, new products, etc.

New Officers and Board for Cutler-Hammer

At the annual meeting of Cutler-Hammer, Inc., Milwaukee, Wis., held April 14, Frank R. Bacon, former chairman of the board, was elected president to fill the vacancy caused by the death of Beverly L. Worden. The office of chairman of the board was abolished.

At the same meeting, other officers and directors were elected as follows: Vice-presidents; F. L. Pierce, J. C. Wilson; treasurer, H. F. Vogt; secretary, W. C. Stevens. Directors elected were F. R. Bacon; F. L. Pierce; J. C. Wilson; H. F. Vogt; W. C. Stevens; T. Johnson Ward; Carl A. Johnson; L. A. Lecher; G. S. Crane, and E. A. Bacon. The new officers and board assume office at once.

Bulletin No. 293 on Bull Dog Safetoswitch Boards type DF-30 has been published by Bull Dog Electric Products Co., Detroit, Mich. This bulletin covers standardized sectional construction in switchboards and is illustrated with data for figuring space layouts, diagrams and specifications.

"Lighting Specific for Hospitals," a booklet covering hospital lighting, has been published by the Holophane Co., Inc., New York City. Particular attention is given to the description and illustration of lighting systems of major and minor operating rooms, together with diagrams showing construction details of installations.

Issues Transformer Instructions

Practical instructions for the care and operation of transformers are given in a booklet just issued by the National Electrical Manufacturers Association, New York, N. Y.

The contents treat among other things, location, handling, inspection and storage of transformers. Drying coils and cores, sampling, testing and drying oil, and filling transformers are important items described.

Burton Resigns from Weber

Frank V. Burton has resigned as sales manager of the Weber Electric Co., Schenectady, N. Y., a position he has filled for more than ten years. Mr. Burton, prior to his Weber connection, was general sales manager of the Bryant Electric Co., Bridgeport, Conn., for many years. He will take a well earned vacation during the summer and expects to announce new connections about the first of September.

National Electric Products Corp., Pittsburgh, Pa., has recently published catalog No. 2 describing Sherarduct and Economy rigid conduit and fittings; Nepduct underfloor wiring system; Ovalduct under-plaster raceway; Flexsteel A.B.C. armored bushed cable and flexible

metallic conduit; Ovalflex flat armored cable and National outlet boxes and covers. This catalog is profusely illustrated with photographs of installations, both completed and in the process of installation, as well as wiring diagrams.

Low Tension Electric Co., Inc., 60 Ann St., New York City, has arranged with the Knickerbocker Annunciator Co., 116 West St., New York, to handle its complete line of electric reset annunciators, push buttons, bells, etc.

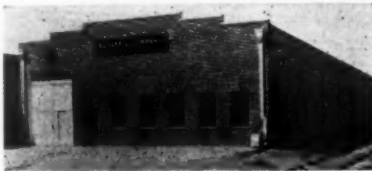
Trittle Vice-President and General Manager

J. S. Trittle has been elected vice-president and general manager in charge of manufacturing sales and engineering operations of the Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa.

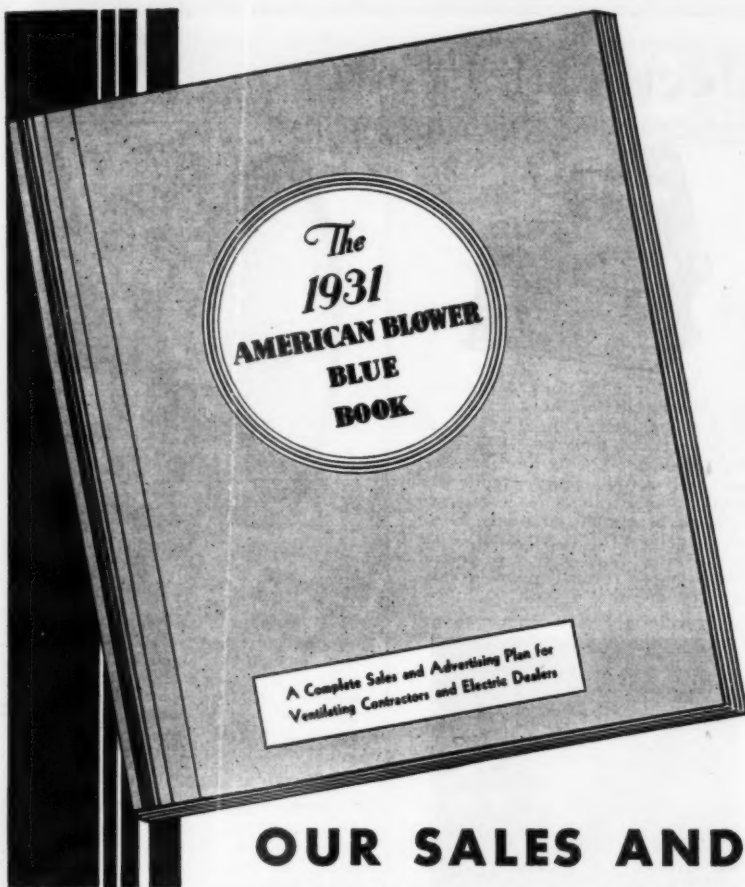
Prior to becoming affiliated with Westinghouse, Mr. Trittle was in the electrical engineering contracting business for eight years, and has held many positions with Westinghouse. In May, 1929, he was made vice-president in charge of manufacturing operations which position he held until this promotion.

Partrick & Wilkins Co., Philadelphia, Pa., has published P. & W. Annunciator Bulletin No. 110-A. This bulletin fully describes the complete line of P. & W. annunciators, together with illustrations, and wiring diagrams showing proper installation of annunciators. A price-list is also enclosed with bulletin.

Squirrel cage motors is the subject of bulletin No. 165, issued by Wagner Electric Corp., St. Louis, Mo. This bulletin discusses seven distinct types of squirrel cage motors, comparing them as to their starting



NEW PLANT FOR SQUARE D CO. OF TEXAS—A new plant has been constructed at Houston by Square D Company of Texas for the manufacture of all special electrical control devices. This company, which is the outgrowth of a merger of the organizations of the Diamond Co. of Texas and the Square D Company, in the southwest, in November, 1930, serves the states of Texas, Louisiana, Mississippi, Arkansas, Oklahoma and part of Tennessee. L. W. Mercer of the Square D Co. of Detroit is president; E. S. Conrad vice-president and general manager; W. S. Worcester, secretary and treasurer and W. F. Wilson, in charge of production and engineering.



make
HOT
WEATHER
PROFITS

OUR SALES AND ADVERTISING BLUE BOOK SHOWS YOU HOW . .

IT'S easy to sell electric ventilating equipment now . . . in any type of business . . . when you have a *plan*. That is why we invite you to write at once for the American Blower Sales and Advertising Blue Book. It contains everything you need to set yourself up as electric ventilation headquarters in your territory. It shows you *where* and *how* to make sales. It pictures markets, sales helps, technical bulletins, newspaper advertisements, etc. It contains

**WRITE FOR A
COPY TODAY**

samples of folders, cards, surveys, envelope stuffers —as complete and effective an assortment of direct mail literature as has ever been offered in the electric ventilation business. And what is more, all this literature is specially *printed* — with the electrical contractor's or dealer's own address and message. There isn't a minute to lose. The hotter the weather, the hotter your prospects! Send the coupon at once.

American Blower
VENTILATING, HEATING, AIR CONDITIONING, DRYING, MECHANICAL DRAFT
MANUFACTURERS OF ALL TYPES OF AIR HANDLING EQUIPMENT SINCE 1881

C O U P O N

AMERICAN BLOWER CORPORATION, 6000 Russell Street, Detroit, Michigan

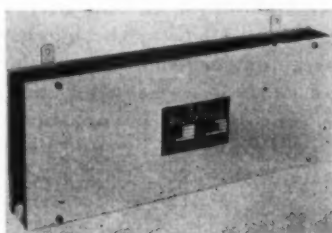
I am interested in receiving a copy of your Blue Book.

Name _____ Firm Name _____
Street and Number _____ City _____ State _____ (1127)

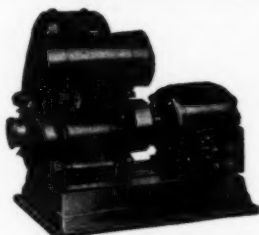
New Electrical Products



The Benjamin Electric Co., Des Plaines, Ill., announces model RD-11 projector for 250-watt floodlighting lamp; model RD-14 with universal service reflector used with either 500-watt floodlighting lamp or with 300 or 500-watt general service lamp and model RD-18 for 1000 and 1500-watt floodlighting lamp or 750, 1000 and 1500-watt general service lamps. These projectors are designed to meet all of the common and special floodlighting problems with the least number of reflectors and cover glasses. By designing the floodlights so that the spread of the beam may be varied through a wide angle, the number of different types of projectors are reduced to a minimum. Projectors have one piece seamless projector aluminum housings and aluminum cover frames, clamps and mounting straps; spring cushion holding reflector in position; silver-glass reflectors; a micro-focusing arrangement; and adjustable swivel mounting bases.



Heavy duty rectifiers have been announced by the B-L Electric Mfg. Co. of St. Louis supplementing the line of smaller size rectifiers. These rectifiers are constructed entirely of metal plates without any moving parts and are of rugged construction. They are used to obtain low voltage, d. c. from the ordinary a. c. lighting or power lines and for this purpose require the use of small step down transformers.



D. W. Onan & Sons, Minneapolis, Minn., announces a.c. electric light plants generating 110-volt, 60 cycle, a.c. and made in 5,000, 2,000 and 1,000-watts, in six models, manual and self-starting. A 4-cycle, single cylinder engine is connected through a flexible coupling to an a.c. generator of compound, separate excited type, which is wound and balanced to produce even voltage and accurate cycle.



Wappat, Inc., Pittsburgh, Pa., announces a $\frac{1}{2}$ in. standard duty drill for general maintenance drilling. It has a spade handle which swivels to any position and a pipe handle that is removable for drilling in close corners.



Edward & Co., New York City, announces pull cord switch No. 280 designed to allow the use of bell ropes or tapestry ribbons for bell and annunciator systems in residences and apartments. Unit has self-cleaning contacts; mounts in wall usually near ceiling; fits any standard single gang switch box or cover; has oval holes in sub-plate at both top and bottom. No face plate is furnished permitting the use of any standard single gang toggle switch plate of brass, glass, bakelite, etc. It has split ring fastened to end of operating lever for easy attachment of rope or ribbon.



O. C. Keckley Co., Chicago, announces its type SE-14-D porcelain enameled closed type floodlight with heat resisting diffusing lens, PS-300 or 500-watt lamp with ball and socket adjustment and enclosed wiring, with glass, chromium or porcelain reflector.

Curtis Lighting, Inc., Chicago, announces the golden armored reflector, which is exactly of the same design as the X-ray reflector made by this company, with the exception that it has a coat of gold in place of green. This gold coloring shows the same silvered reflecting surface broken up by curious "waves" and "spirals" as the green colored reflector did.



The Marbelite Art Products Co., Chicago, announces No. 950 floodlight to accommodate 300 to 1500 watt lamps. Unit is adjustable to all angles and degrees for mounting on a 2-in. iron pipe; is fitted with rayalium dome reflector $3\frac{1}{2}$ in. wide by 6 in. deep; is double dome shaped and chemically etched. Socket housing is made so as to keep weather out and base of lamp cool.

1.
Index

2.
Answer

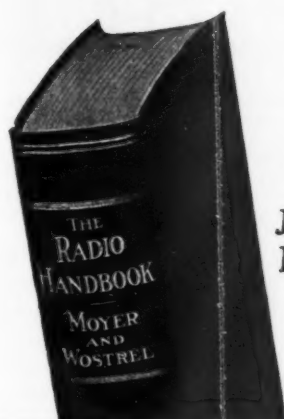
Turn 2 pages !

....for the answer to any radio question

IS YOUR question on television or short-wave reception, screen-grid pentodes or modulated-wave transmission, Piezo-electric crystals or auto-alarms? You can quickly find up-to-date dependable answers to these and a thousand and one other questions in this big, new handbook.

The whole radio field is covered—from theory to latest industrial applications—with both technical and practical data. A complete thorough index makes it easy to put your finger instantly on needed facts.

Just
Published



The RADIO HANDBOOK

Including Television and Sound Motion Pictures

by James A. Moyer and John F. Wostrel

Both of the Massachusetts Department of Education

886 pages, 5½ x 8, 650 illustrations, flexible, \$5.00

Latest data
on more than
1300 topics like these:

- electrons
- radio receiving-set testers
- short-wave transmission
- Kennelly-Heaviside layer
- radio air maps
- screen-grid tubes
- power pentodes
- thyratrons
- vacuum-tube circuits
- power-supply systems and apparatus
- push-pull amplifier
- Piezo-electric crystals
- super-heterodyne receivers
- trouble shooting
- short-wave receivers
- interference filters
- modulation in radio telephony
- transmitting circuits
- broadcasting transmitters
- marine commercial transmitters
- laboratory equipment and methods
- burglar and fire alarms
- smoke indicators and protectors
- color sorting and matching devices
- grid-glow tubes
- photo-electric spectro-photometer
- half-tone radio photography
- television projectors
- color television
- industrial applications of vacuum tubes
- sound recording devices
- motor control circuits
- photo-electric cells, etc.

See it
10 days
FREE

Send
this
coupon

McGraw-Hill FREE EXAMINATION COUPON

McGraw-Hill Book Co., Inc., 370 Seventh Avenue, New York.

You may send me a copy of Moyer and Wostrel's *Radio Handbook*, \$5.00, for ten days' free examination. I agree to remit for the book or return it, postpaid, within ten days of receipt.

Name

Home Address

City and State

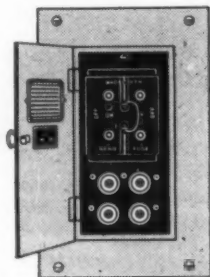
Name of Company

Occupation

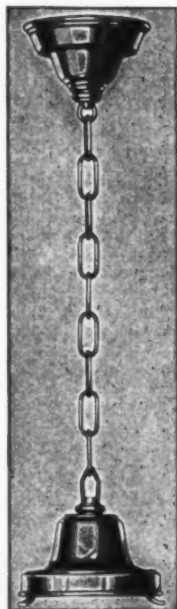
(Books sent on approval to retail purchasers in U. S. and Canada only.)

E. C. 7-31

New Electrical Products



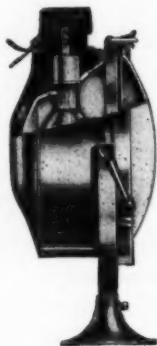
The Wadsworth Electric Mfg. Co., Covington, Ky., announces a panelboard for range circuit, with or without plug fuse distribution, surface mounting type, dead-front construction and arranged for 2- or 3-wire service. The Renu-fuse unit for 60 amp. circuit consists of a stationary porcelain block having attached to upper and lower walls large contact jaws and bakelite pull cover to which is attached fuse clips and large contact blades. Cabinet has 1½ in. wiring gutter, and cabinets of two or more circuits have card holder with card on inside of door. Cabinet and dead front is finished in baked black enamel.



A toggle type holding device is the feature of screwless commercial lighting fixtures announced by the F. W. Wakefield Brass Co., Vermilion, Ohio. This unit includes chain suspension, semi-rigid stem suspension and ceiling type units; 4 and 6 in. fitters with mogul sockets available in larger size. Holders and canopies are of heavy gauge brass, with brass casing on stem type units and solid brass chain.



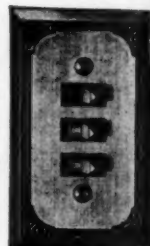
A short circuit and ground finder is being manufactured by The Battery Equipment & Supply Co., Chicago, which, the manufacturer claims, tells instantly if a short or ground exists in a wiring circuit. With the big clip in the battery, the little clip in series with battery cable, the finder held near the wire causes a ground or short to make the earphones buzz loudly and continuously. To locate exact trouble spot move finder along near wiring. When shorted point is reached, the buzz stops dead.



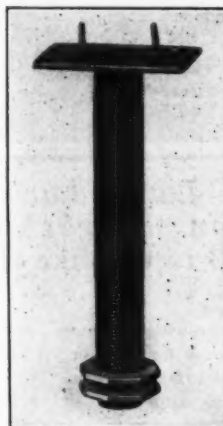
Reflector & Illuminating Co., Chicago, announces an exterior flood lighting unit, the construction of which is a combination of copper drum type reinforced with cast members. Unit is equipped with a locking lever for holding it in proper position and at correct elevation. Reflector equipment is of triple silver plated glass with removable ventilating cowl permitting a large volume of cold air to enter drum but is so constructed as to exclude rain, hail, snow and insects. Adjustable for 300 to 1000 watt lamps with beam spread 6 to 90 deg.



Reverses fan →
Starts and stops fan →
Controls light →



Century Electric Co., St. Louis, Mo., announces a wall control for its light fan and electrical reversing fan. The fan reversing switch on wall stops fan and starts it in opposite direction. Units are reversible 36 in. and 60 in. ceiling fans.



The Trico Fuse Mfg. Co., Milwaukee, Wis., has recently placed on the market a rapid fixture hanger, consisting of a square mounting plate, a ½ in. pipe nipple and 2 lock nuts. Mounting plate has 2 prongs which can be pressed into the wood permitting 2 screws to be inserted and fastened. These starting prongs hold plate in place making it easy to insert screws. Hangers are furnished with various length of nipples for wiring buildings with 6, 8, 10 or 12 in. joists.

National Metal Molding Division of National Electric Products Corp., Pittsburgh, Pa., announces the Universal Level designed for leveling where height adjustments are to be made in installing floor distribution systems. This level measures 4½ in. at its widest point and is 1 in. high and can be conveniently carried in a pocket.

IT'S PORTABLE

Carry the Martin Vise Stand and Pipe Bender with you... anywhere; set it up in one-half minute. Will not skid or tilt. A genuine TIME SAVER for cutting or threading conduit up to 2 1/2". Bending capacity 1/4". Write to



H. P. MARTIN & SONS
800 W. 12th St.
OWENSBORO, KY.

MARTIN

WISE STAND AND PIPE BENDER

Keep Up-to-Date

By reading these pages you will acquaint yourself with what is newest and best in electrical supplies and equipment.

When communicating with an advertiser mention

Electrical Contracting

**YES! YOU CAN
MAKE MONEY
NOW**



WIREMOLD

for SURFACE WIRING

HOW?

**SELLING
LIGHT BY THE
ROOMFULL!**

Current issue of Wiremold's famous Business Builder, "The Wiremold Idea," tells how to sell light by the SHOP FULL—STORE FULL—OFFICE FULL—ROOM FULL. Be sure to get your free copy.

WIREMOLD

WBB HEADQUARTERS

HARTFORD, CONNECTICUT

torques, starting currents and cost. Speed-torque curves and tables make a thorough comparison of the seven types. The bulletin also illustrates and describes construction details, and has a section on "mechanical variations" in which rolling bearings, totally-enclosed fan-cooled, vertical and three-bearing motors are discussed. There is also a section on multi-speed motors and control equipment.

L. H. Gilmer Co., Philadelphia, Pa., has just issued catalog No. 1002 on Gilmer V-Belts, including the advantages of V-Belt drives; uniform power transmission with V-Belts; requisites of a long life V-Belt; fractional horsepower V-Belt drives; the multiple V-Belt drive and illustrations and descriptive data on various different types of drives. This catalog is illustrated and contains full engineering data and price-lists.

New Appointments Made By Standard Transformer

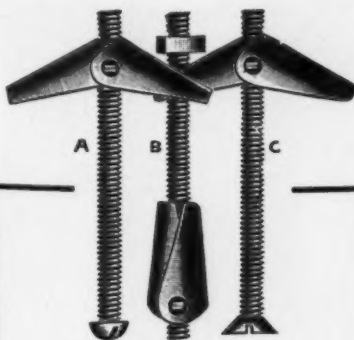
The Standard Transformer Co., Warren, Ohio, has appointed L. J. Gregory, 2108 Central Parkway, Cincinnati, Ohio, representative in the Cincinnati district succeeding the late H. M. Walmsley. Mr. Gregory was formerly associated with the merchandising division of the Union Gas & Electric Co., Cincinnati.

J. C. McDougal, 2207 1st Ave. South, Seattle, Wash. has also been appointed by Standard Transformer as representative in Oregon and Washington and T. J. Richards, 434 Ferndale Ave., Youngstown, Ohio, as representative in the northern Ohio section.

Effective June 1, the Atlanta, Ga., sales office of Cutler-Hammer, Inc., will be located at 133 Cone Street, N.W., with Mr. A. C. Gibson as manager. These new quarters also include warehouse facilities where a stock of the more popular C-H Motor Control, Wiring Device and Safety Switch items will be carried for immediate delivery.

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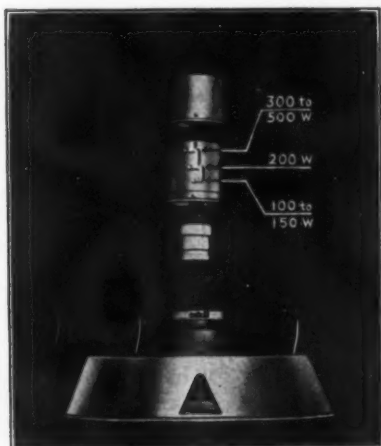
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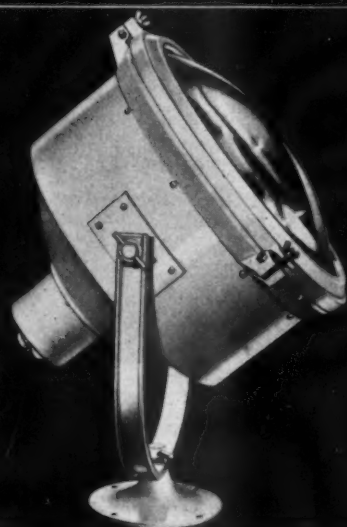
City..... State.....

Index to Advertisers

A	L
Adam Electric Co., Frank..... 65	Liberty Bell Mfg. Co., The..... 78
Adapti Co., The..... 84	
All-Steel-Equip Co., Inc..... 85	
American Blower Corp. 97	
American Circular Loom Co., Inc. 53	
American Steel & Wire Co..... 41	
Anaconda Wire & Cable Co..... 4	
Appleton Electric Co..... 59	
Armstrong Bros. Tool Co..... 94	
Arrow Electric Division..... 47	
Automatic Electric Inc..... 25	
B	
B-L Elec. Mfg. Co., The..... 92	
Benjamin Electric Mfg. Co.....	
..... Inside front cover	
Brach Mfg. Corp., L. S..... 88	
Bryant Park Electric Lamp Co..... 102	
Bull Dog Electric Products Co.....	
..... Back cover	
Bussmann Mfg. Co..... Inside back cover	
C	
Central Tube Co..... 79	
Century Electric Co..... 58	
Chicago Expansion Bolt Co..... 94	
Conduo Base Co..... 76	
Crescent Ins. Wire & Cable Co..... 29	
D	
Day-Brite Reflector Co..... 82	
Da-Lite Floodlight Co..... 74	
E	
Edwards and Co., Inc..... 72	
Emerson Elec. Mfg. Co., The..... 30	
F	
Fibre Conduit Co., The..... 31	
Fretz Moon Tube Co., Inc..... 24	
Fullman Mfg. Co..... 78	
G	
Garland Mfg. Co..... 92	
General Cable Corp..... 81	
General Electric Co..... 46, 64	
General Electric Supply Corp..... 83	
Giant Mfg. Co..... 76	
Graybar Electric Co..... 52	
Greenlee Tool Co..... 82	
H	
Henderson-Hazel Corp. 91	
Hub Electric Co..... 86	
J	
Jefferson Electric Co..... 27	
Jiffy Wire Connector Co..... 90	
K	
Keckley Co., O. C..... 94	
Kliegl Bros..... 88	
Klein & Sons, Mathias..... 90	
M	
McGraw-Hill Book Co., Inc..... 99, 104	
Martin & Sons, H. P..... 101	
Minneapolis Electric & Construction Co., 92	
Mohawk Conduit Co., Inc..... 40	
N	
National Electric Products Corp.....	
..... Front cover	
O	
Onan & Sons, D. W..... 90	
P	
Paine Co., The..... 101	
Paramount Electrical Supply Co..... 101	
Partrick & Wilkins Co..... 75	
Pittsburgh Reflector Co..... 103	
Q	
Quadrangle Mfg. Co..... 80	
R	
Ralco Mfg. Co..... 84	
Reflector & Illuminating Co..... 86	
S	
Sangamo Electric Co..... 89	
Sherman Mfg. Co., H. B..... 94	
Standard Transformer Co., The..... 90	
Steel and Tubes, Inc..... 93	
Steelduct Co., The..... 80	
T	
Trico Fuse Mfg. Co..... 77	
U	
Underfloor Duct 31	
V	
Van Cleef Bros. 73	
W	
Wadsworth Electric Mfg. Co., Inc., The 28	
Wakefield Brass Co., The F. W..... 2	
Westinghouse Electric & Mfg. Co., 87	
Wiremold Co., The..... 101	
Y	
Yaxley Mfg. Co..... 95	
Youngstown Sheet & Tube Co., The 23	

Indirect Lighting

Flood Lighting

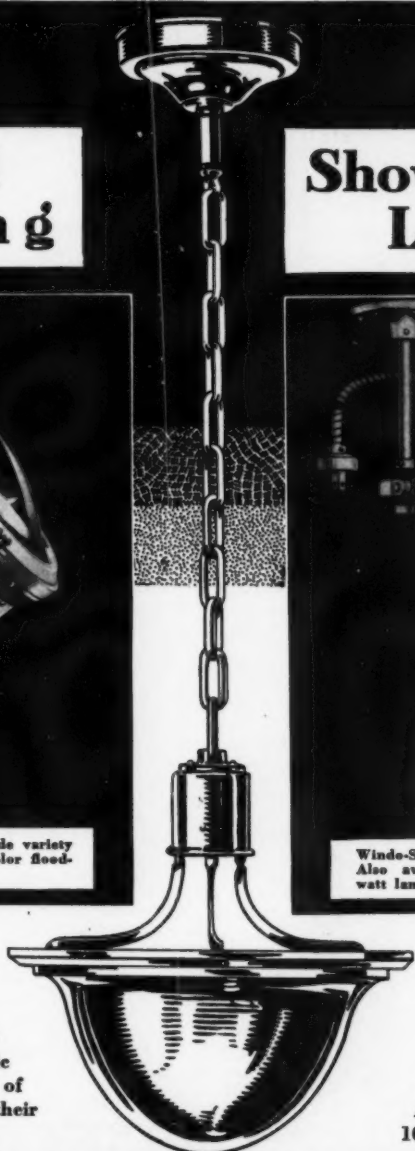


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